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Explicit Pronunciation Instruction at the Tertiary Level: Pronunciation Development and Learner Perceptions among Austrian EFL University Students

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Valerie White-Hautzinger BEd

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Abstract

Communicative competence is a central goal in English as a Foreign Language (EFL) education, particularly at the tertiary level, where students are expected to express themselves clearly and confidently in academic and professional contexts. Pronunciation plays a key role in achieving this goal by supporting intelligible and effective spoken communication. Although explicit pronunciation instruction (EPI) has been shown to enhance spoken performance, it remains underrepresented in many university curricula. Moreover, EFL learners with German as a first language (L1), particularly those targeting General American (GA) pronunciation, have received little focused attention in research on the effectiveness of EPI. While learner perspectives are increasingly acknowledged in pronunciation studies, there is still limited understanding of how EPI shapes students' evolving perceptions, including their confidence, pronunciation goals, self-perceived accent, and perceptions of instructional effectiveness. To address these gaps, this thesis examines how EPI supports pronunciation development and shapes the perceptions of Austrian EFL university students with German as their first language (L1), focusing specifically on GA as the target variety. The study was conducted at the University of Vienna, specifically within the Department of English and American Studies, where students in the English Language Competence (ELC) program complete the course Practical Phonetics and Oral Communication Skills 1 (PPOCS1) and its accompanying language lab. A short-term longitudinal mixed-methods design was used to assess development among 20 Bachelor of Education (BEd) students through pre- and post-instruction recordings and questionnaires. Pronunciation gains were measured across five segmental features (/æ/, /ɑː/, /oʊ/, flapped /t/, post-vocalic /r/) and four suprasegmental domains (intonation, sentence stress, weak forms, linking). The results reveal significant improvement in phonological accuracy, along with increased confidence, clearer pronunciation goals, and heightened motivation to further approximate the target accent. Together, these findings offer empirical support for integrating EPI into tertiary-level EFL curricula, not only to improve accuracy but also to promote learner confidence and preparedness for authentic academic and professional communication.

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List of Abbreviations

AL ..... Austrian Learner
BE ..... British English
BEd ..... Bachelor of Education
CEFR ..... Common European Framework of Reference for Languages
CLT ..... Communicative Language Teaching
CPH ..... Critical Period Hypothesis
EFL ..... English as a Foreign Language
ELF ..... English as a Lingua Franca
ESL ..... English as a Second Language
EPI ..... Explicit Pronunciation Instruction
FOA ..... Final Obstruent Agreement
FOD ..... Final Obstruent Devoicing
FLSA ..... Foreign Language Speaking Anxiety
GA ..... General American
L1 ..... First Language
NNS ..... Non-Native Speaker
NNEST ..... Non-Native English-Speaking Teacher
PPOCS1 ..... Practical Phonetics and Oral Communication Skills 1
RP ..... Received Pronunciation

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1 Introduction

As English solidifies its role as the default language for international academic, professional, and social interaction, the pressure to develop strong communicative skills has intensified, particularly for EFL students at the tertiary level. These students are increasingly expected to engage in clear, confident spoken communication across formal settings. The growing demand places renewed focus on pronunciation as a key component of communicative competence, and by extension, on the role of explicit pronunciation instruction (EPI) in supporting this development. As Pennington (2021, p. 3) notes, pronunciation has received renewed attention in language teaching research and practice over the past few decades, particularly in connection with its communicative value and relevance for advanced learners. Despite growing recognition of its value, pronunciation instruction continues to receive limited attention in university-level EFL programs (Darcy, 2018, p. 13)

At the same time, a growing body of research confirms that EPI can significantly enhance pronunciation accuracy and spoken intelligibility across a wide range of L1 backgrounds, including Indonesian (Pardede, 2018), Japanese (Saito, 2011), Kurdish (Mahmood, 2023), Thai (Lamarca et al., 2016), Norwegian (Mong, 2022) and Spanish (Gordon, 2021; Gordon & Darcy, 2022; Mora & Mora-Plaza, 2023). However, comparatively little is known about how EPI affects learners whose first language is German, particularly those aiming to approximate GA pronunciation. This research gap is especially relevant in the Austrian context, not only because L1 German-speaking students frequently struggle with GA-specific features such as flapped /t/ and post-vocalic /r/ (cf. Avery & Ehrlich, 1992; Richter, 2019; Schmitt, 2016), but also because GA is becoming increasingly popular as a target variety among Austrian learners (ALs) (cf. Richter & Weissenbäck, 2022).

In parallel with the growing interest in pronunciation instruction, increasing attention has been paid to how learners perceive such instruction, an aspect that holds significant implications for motivation, engagement, and learning outcomes. Foundational research in applied linguistics has long shown that learners' beliefs and attitudes shape not only their approach to instruction but also their eventual success (cf. Horwitz, 1988; Cotterall, 1999). In the context of pronunciation, students who view instruction as meaningful and aligned with their personal goals are more likely to

persist in practice, develop confidence, and report satisfaction with their progress (e.g., Derwing & Rossiter, 2002; Nguyen et al., 2021; Pardede, 2018). By contrast, those who feel unsupported or disconnected from the instructional approach may experience anxiety, low confidence, or disengagement (cf. Macdonald, 2002; Schwarz et al., 2021). Despite these insights, the majority of empirical studies on EPI still focus primarily on production-based outcomes, while learners' evolving self-perceptions, such as accent identity, pronunciation goals, confidence, and perceived effectiveness of instruction, remain comparatively underexplored.

To address these gaps, this master's thesis investigates how EPI affects both pronunciation development and learner perceptions among advanced Austrian EFL university students with German as their first language (L1). The study examines students' progress across segmental and suprasegmental features of English, with a particular focus on GA pronunciation as the target variety. The selected segmental features (/æ/, /ɑː/, /oʊ/, flapped /t/, and post-vocalic /r/) have been widely reported as problematic for German-speaking learners and are especially relevant for those aiming to approximate GA pronunciation (cf. Avery & Ehrlich, 1992; Richter, 2019; Schmitt, 2016). The suprasegmental features (intonation, sentence stress, linking, and weak forms) were likewise chosen based on documented challenges faced by L1 German learners (cf. Richter, 2019; Schmitt, 2016). In addition, the study explores learners' perceptions of their pronunciation development, instructional effectiveness, and alignment with their target accent, along with changes in their confidence and pronunciation goals over time.

Adopting a short-term longitudinal mixed-methods design, the study draws on data collected from 20 Bachelor of Education (BEd) students enrolled in PPOCS 1 at the University of Vienna. Pre- and post-instruction recordings were used to assess development across the selected segmental and suprasegmental features, while questionnaires provided insights into students' evolving perceptions. By specifically addressing the under-researched area of pronunciation instruction for Austrian L1 German learners of GA English, this study contributes valuable empirical evidence and practical recommendations to the field of pronunciation pedagogy at the tertiary level.

This thesis begins by outlining the theoretical and empirical foundations of the study, drawing on research related to the importance and goals of pronunciation instruction

in tertiary-level EFL contexts, learner perceptions and expectations, pronunciation goals, common instructional approaches, and the role of model accents (Chapter 2). Building on this, the following chapter provides a detailed overview of the segmental and suprasegmental features that are typically challenging for learners with German as a first language, with a particular emphasis on Austrian learners (ALs) aiming to approximate General American (GA) pronunciation (Chapter 3). The subsequent chapter outlines the institutional context of the study, focusing on pronunciation instruction at the University of Vienna and the structure of the PPOCS1 course with its accompanying language lab (Chapter 4). The research design, methodology, and instruments are then described in detail, followed by the presentation and interpretation of the study's key findings, including students' pronunciation development and their evolving perceptions of instruction, self-perceived accent, personal progress, and goal achievement, along with changes in their confidence and their motivation to continue pronunciation practice following the course (Chapter 5). The thesis concludes with a summary of the main insights and a discussion of pedagogical implications (Chapter 6), followed by an outline of the study's limitations and directions for future research (Chapter 7).

2 English Pronunciation Instruction at the Tertiary Level

Although often overlooked in the EFL classroom, pronunciation instruction is a fundamental aspect of language learning, particularly at the tertiary level, where communicative competence is essential for academic and professional success. The following chapter opens by outlining the overall importance of pronunciation instruction for EFL students, with particular emphasis on its relevance for university-level EFL students. This is followed by a review of evolving goals in pronunciation teaching, focusing on the shift from native-like pronunciation to intelligibility as a more realistic and communicatively grounded aim. The chapter then reviews research on learner perceptions of pronunciation instruction as well as their goals, highlighting the impact of beliefs and attitudes on learning outcomes. Additionally, it examines the contrast between explicit and implicit instructional approaches, considering how each supports different aspects of phonological development. Finally, the chapter explores which model accents are commonly used in tertiary-level pronunciation instruction, discussing the pedagogical rationale for their continued use. Taken together, these areas provide the theoretical foundation for the present thesis and highlight the need for structured, learner-centered pronunciation instruction at the tertiary level.

2.1 The Importance of Pronunciation Instruction

Pronunciation is a fundamental aspect of language, without which successful communication cannot be achieved. While having an accent[1] is a natural part of foreign language acquisition[2], the ability to be understood, often referred to as intelligibility, is widely regarded as the key to successful interaction (cf. Dalton-Puffer et al., 1997; Derwing & Munro, 2005; Fraser, 2000). As Dalton-Puffer et al. (1997, p. 116) state, “Good pronunciation is [...] indispensable for adequate communication in a foreign language”. Indeed, Fraser (2000, p. 7) emphasizes that poor pronunciation can severely hinder understanding, even when a speaker demonstrates accuracy in other linguistic areas. Taking a complementary perspective, Derwing and Munro

[1] While the term *accent* refers broadly to pronunciation features that signal a speaker’s regional or social background (Yule, 2023, p. 292), the term *foreign accent* is used in this thesis to describe non-native speech patterns shaped by a speaker’s first language (cf. Lane, 2010, p. 3; Levis, 2018, p. 17). For readability, the term *accent* is occasionally used as a shorthand for *foreign accent* when the context clearly indicates non-native speech.

[2] Although a theoretical distinction is commonly made between *acquisition* (subconscious, implicit processes) and *learning* (conscious, explicit processes), following Krashen (1984), the terms are used synonymously in this thesis to refer to the development of learners’ pronunciation resulting from explicit instruction.

(2005, pp. 382–383) argue that learners with clear pronunciation can often communicate effectively, even if they make grammatical or lexical errors. These perspectives underline the central role of pronunciation in spoken communication and highlight its importance as an integral component of EFL acquisition.

Given the integral role of pronunciation, it is crucial to recognize that even minor inaccuracies at the segmental level can substantially disrupt intelligibility and lead to misunderstandings. As Jenkins (2000, p. 83) explains, pronunciation is the linguistic area most likely to impede effective communication, as subtle phonetic variations can significantly alter the intended meaning. These subtle mispronunciations become particularly problematic due to the wide variety of pronunciation patterns found among non-native English speakers, which increases the likelihood of misinterpretation. For instance, Kelly (2000, p. 11) provides a clear example of how even a slight vowel mispronunciation, such as pronouncing the word <soup> as /səʊp/ rather than /suːp/, can cause the listener to misunderstand the request “Can I have some soup please?” as one for <soap>, despite the utterance being grammatically and lexically correct. This example strongly supports Fraser’s (2000, p. 7) earlier point that even learners with robust grammatical and lexical abilities can experience significant communicative difficulties due to pronunciation inaccuracies. Therefore, precise segmental pronunciation is not merely a linguistic detail but a critical requirement for achieving clear and effective communication.

Beyond individual sounds, suprasegmental features such as stress, rhythm, and intonation are equally crucial for successful communication. Misplaced stress or unnatural intonation, for example, can alter the perception of a message, potentially causing an otherwise polite request to sound abrupt or impatient (Kelly, 2000, pp. 11–12). Schaetzel (2009, p. 2) further highlights the importance of suprasegmentals, arguing that errors in stress, rhythm, or intonation often affect intelligibility even more profoundly than isolated segmental errors. At the same time, Darcy (2018, p. 30) cautions that even excellent suprasegmental control becomes ineffective if segmental pronunciation, the foundational level, is unintelligible. Hence, neither aspect can be effectively addressed in isolation, as clear and comprehensible speech requires a combination of both segmental precision and appropriate prosodic features. Sharma (2021, p. 64) similarly highlights that clear pronunciation of both segmental and suprasegmental features is essential, stressing the necessity of addressing both

aspects simultaneously. Gordon and Darcy (2022, p. 190) consequently emphasize a balanced instructional approach that addresses both segmental and suprasegmental features as essential components of comprehensible and effective communication.

Given these insights, systematically integrating both segmental and suprasegmental aspects into pronunciation instruction is important for EFL learners at all proficiency levels, but particularly crucial for students at the tertiary level to enhance their communicative competence (Foote et al., 2011, p.14). This competence, as Mahmood (2023, p. 1421) emphasizes, is essential for tertiary-level EFL students to successfully engage in academic tasks such as presentations, debates, and collaborative projects. Similarly, Darcy (2018, p. 21) highlights that intelligible pronunciation is indispensable not only for effective participation in academic discourse but also for professional interactions and job opportunities beyond the university setting. Hence, without targeted pronunciation instruction, tertiary-level EFL students may find their ability to actively participate in academic and professional contexts significantly compromised.

The importance of pronunciation instruction becomes even more evident when considering that many tertiary-level EFL students aspire to become English teachers, a point that, while not always stated explicitly, is strongly implied in studies conducted by researchers such as Burri (2015) and Murphy (2018). Pronunciation proficiency among prospective teachers has direct implications not only for their own communicative effectiveness but also for their future teaching quality and confidence, a point that Murphy (2018, p. 314) reinforces by emphasizing the need for pronunciation instruction in tertiary teacher education programs to combine theoretical knowledge with practical training. Further supporting this argument, several studies indicate that good pronunciation skills are particularly critical for non-native English-speaking teachers (NNESTs), whose own pronunciation serves as a reference model for their students (cf. Darcy, 2018; Derwing & Munro, 2005; Mong, 2022; Nguyen & Newton, 2020).

Despite this importance, Murphy (2014, p.260) points out that some NNESTs may hesitate to explicitly teach pronunciation due to insecurities about their own abilities. However, Murphy (2014, ibid.) further argues that precisely because NNESTs have navigated the process of learning English pronunciation themselves, they can become highly effective pronunciation instructors. Additionally, Burri (2015, p.76) notes that

student teachers' confidence in their own pronunciation significantly affects their willingness and ability to provide pronunciation instruction in the classroom. Further supporting these findings, Nguyen and Newton (2020, p.10) report that while EFL teachers generally acknowledge the importance of pronunciation teaching, they often lack sufficient training and professional development opportunities to teach it effectively.

Overall, this evidence highlights the critical role of pronunciation instruction in supporting tertiary-level learners' academic and professional success, particularly for those preparing to become future English teachers. In addition to implementing effective instructional practices, it is equally important to consider the underlying goals that guide pronunciation teaching. Therefore, the following section examines the evolving goals of EFL pronunciation instruction.

2.2 Goals of Pronunciation Instruction

Setting appropriate pronunciation goals has long been a central concern in EFL instruction. A pronunciation goal typically refers to the level of spoken proficiency that learners are expected to achieve to ensure successful communication (Rogerson-Revell, 2011, p. 8). While traditional approaches often emphasized native-like pronunciation as the ultimate target, contemporary perspectives increasingly recognize intelligibility as a more realistic objective (Galante & Piccardo, 2022, p. 375). This shift reflects the widely recognized understanding that native-like pronunciation is difficult for most adult learners to attain and that intelligible speech is sufficient for successful communication in diverse contexts (cf. Gilakjani, 2016, p. 4). At the tertiary level, where higher expectations for communicative competence prevail, setting realistic and achievable pronunciation goals is particularly important. Against this background, this section examines the historical preference for native-like pronunciation and the growing emphasis on intelligibility as the primary aim of EFL pronunciation instruction.

2.2.1 Native-like Accent as a Goal

For much of the history of English pronunciation instruction, the attainment of native-like pronunciation was regarded as the ultimate target. Early approaches, particularly during the *Audiolingual* era, emphasized accuracy and the imitation of native-speaker models, viewing native-like pronunciation as a marker of linguistic authenticity and

social prestige (Morley, 1991, p. 498). Despite the shift toward a greater focus on communicative competence in more recent decades (Sardegna & Jarosz, 2023, p. 10), the desire for native-like pronunciation persists among many learners and teachers (Ur, 1996, p. 52). However, achieving native-like pronunciation has proven exceptionally rare among adult learners, a reality that frequently results in frustration (Lane, 2010, p. 1; Levis, 2005, p. 370). This issue is particularly relevant in tertiary contexts, where students often pursue high-level language proficiency and may retain aspirations of native-like accuracy despite the limited feasibility of this goal.

Understanding the biological constraints on pronunciation development is essential for evaluating the plausibility of native-like attainment. *The Critical Period Hypothesis* (CPH) argues that neurobiological changes after puberty significantly reduce the ability to acquire native-like phonological skills (cf. Birdsong, 2006, p. 36; Singleton, 2005, p. 280). This decline has been linked to reduced neural plasticity, which begins in early childhood and is believed to hinder the accurate perception and production of non-native sounds (cf. Long, 1990, p. 255). Nevertheless, recent studies suggest that compensatory factors, such as strong cognitive abilities and intensive, high-quality language exposure, can enable some learners, even adult learners, to overcome these biological limitations and achieve native-like pronunciation (Azieb, 2021, pp. 24–25). Furthermore, individual variables like language aptitude and motivation can critically shape pronunciation outcomes (Dalton & Seidlhofer, 1994a, p. 72; Richter, 2019, p. 109). It is important to note, however, that the complete elimination of a foreign accent remains highly unlikely for most adult learners (Levis, 2018, p. 11).

In addition to biological and individual factors, socio-psychological influences play a significant role in the acquisition of L2 pronunciation. Pronunciation is deeply tied to personal identity, and learners who maintain strong connections to their L1 culture may intentionally retain features of their original accent (Sardegna & Jarosz, 2023, p. 14). Conversely, learners who develop a strong identification with the target language community often show greater motivation and success in reducing L1 interference (Rogerson-Revell, 2011, p. 18). As Moyer (2013, p. 12) emphasizes, the development of second language phonology results from a complex interplay between perceptual ability, speech production flexibility, and socio-psychological orientation.

Beyond practical challenges, ethical concerns further complicate the pursuit of native-like pronunciation as an instructional goal. Requiring learners to conform to native-

speaker norms risks diminishing their right to linguistic self-expression and reinforcing unrealistic hierarchies of linguistic value (Dalton & Seidlhofer, 1994b, p. 7; Walker, 2010, p. 20). As Swan (1993, p. 8) succinctly notes, unless learners are being trained for highly specific purposes such as espionage, the primary goal should be clear, comprehensible communication rather than eliminating every trace of a foreign accent.

Despite the weight of these arguments, the native-speaker ideal continues to exert a powerful influence over learner aspirations and instructional practices. Many students entering tertiary EFL programs still hope to "get rid of" their foreign accents (Levis, 2005, p. 370), and some educators, particularly those less familiar with current research, may continue to view native-like pronunciation as an attainable standard. However, given the complex constellation of biological, psychological, and sociocultural factors influencing pronunciation development, it is evident that a shift toward more realistic, communicatively grounded goals is necessary (Gordon & Darcy, 2022, p. 187). This evolving focus on intelligibility as a primary objective is discussed in the following section.

2.2.2 Intelligibility as a Goal

As research in pronunciation instruction has evolved, intelligibility has increasingly been recognized as a more realistic and pedagogically appropriate goal than achieving native-like pronunciation (Atar, 2018, p. 95; Pennington, 2021, p. 4). Particularly in English as a Lingua Franca (ELF) contexts, where communication occurs predominantly among non-native speakers (NNS), the ability to be understood has taken precedence over replicating native-speaker norms (Jenkins, 2000, p. 1). Intelligibility, defined as the extent to which a listener can correctly recognize words, phrases, and utterances (Lane, 2010, p. 2; Munro & Derwing, 2002, p. 289), has thus become central in pronunciation instruction. However, as Kenworthy (1987, pp. 3–4) points out, effective communication depends not only on recognition but also on minimizing the listener's cognitive effort, which she refers to as *comfortable intelligibility*. This concept closely aligns with what more recent literature refers to as *comprehensibility*, which describes the degree of ease or difficulty a listener experiences when attempting to understand a spoken utterance (cf. Derwing & Munro, 2015, p. 6). Given English's role as a global lingua franca, ensuring this level of ease and clarity has become increasingly important, especially in interactions among NNS.

Jenkins' (2000, p. 69) notion of *international intelligibility* and Walker's (2010, p. 19) emphasis on the specific communicative challenges of ELF interactions, where NNS rely more heavily on the actual acoustic signal and receive limited contextual support, reinforce the idea that pronunciation instruction should prioritize clear, accessible speech over adherence to native-speaker models.

Although intelligibility is increasingly recognized as a central goal, it remains a subjective phenomenon, influenced by listener-related factors such as familiarity with accents, linguistic background, conversation topic, and attentiveness (cf. Munro & Derwing, 2002, p. 287; Murphy, 2014, p. 259). Notably, Levis (2018, p. 11) argues that heavily foreign-accented[3] speech can still be highly intelligible, emphasizing that a foreign accent alone does not necessarily impair understanding. This raises important questions about which specific linguistic features most strongly affect intelligibility, an issue that directly informs pedagogical priorities in pronunciation instruction.

Traditional approaches placed primary emphasis on segmental accuracy (Brown, 1992, p. 11), often prioritizing phonemes according to their frequency and functional load (Dalton & Seidlhofer, 1994a, p. 145). However, research increasingly shows that suprasegmental features, such as stress, rhythm, and intonation, play a more significant role in enhancing intelligibility (Hahn, 2004, p. 218; Lane, 2010, p. 2).While the importance of suprasegmentals is widely acknowledged, they are also considered particularly challenging to teach (Roach, 2000, pp. 189–190). As a result, scholars advocate starting pronunciation instruction with word and sentence stress, which provides a practical entry point that links segmental detail with broader prosodic patterns (Dalton & Seidlhofer, 1994a, p. 73).

Another important consideration involves the type of interlocutors learners are most likely to encounter. Traditionally, learners were trained to be intelligible to native speakers; however, today, interactions among NNS are increasingly the norm (Jenkins, 2000, pp. 69–70; Walker, 2010, pp. 18–19). In this regard, Jenkins (2000) introduced the concept of the *Lingua Franca Core* (LFC), which identifies the pronunciation features crucial for mutual intelligibility among non-native English users. Walker (2010, p. 8) later summarized and expanded this model, emphasizing the

[3] *Foreign-accented speech* refers to non-native speech shaped by a speaker's first language, typically marked by phonological patterns that differ from the target language norm (cf. Levis, 2018, p. 11).

pedagogical importance of approximating core consonants, maintaining consonant clusters, distinguishing vowel length, and correctly placing nuclear stress, while de-emphasizing the articulation of less critical sounds like /θ/, /ð/, and /ə/.

Despite the growing consensus that intelligibility should guide pronunciation instruction, defining it operationally remains a major challenge. Field (2005, p. 399) notes that there is no universal agreement on which pronunciation features are most critical for promoting intelligibility, and the diverse linguistic backgrounds of English users worldwide further complicate efforts to establish universal standards. As a result, while intelligibility offers a more attainable and communicatively meaningful goal than native-likeness, its practical implementation continues to pose difficulties. Nevertheless, adopting intelligibility as the primary aim represents a significant shift in pronunciation instruction, redirecting the focus from mimicking native speakers to fostering effective communication (Levis, 2005, p. 370).

Accordingly, an approach that prioritizes intelligibility over native-likeness not only reduces unrealistic expectations but also supports the development of segmental and suprasegmental skills essential for effective communication. At the same time, many advanced learners at the tertiary level may aspire to achieve a more native-like accent. While intelligibility should remain the primary instructional goal, motivated learners may benefit from additional opportunities for focused practice, targeted feedback, or optional advanced instruction to further refine their pronunciation. Given their linguistic proficiency and academic engagement, tertiary-level students may be well positioned to aim not only for clear communication but also for more target-like pronunciation. Supporting such goals may foster both personal satisfaction and professional confidence, without detracting from the practical priorities of pronunciation instruction.

2.3 EFL Learner Perceptions, Expectations, and Pronunciation Goals

While the previous section examined pronunciation goals from a pedagogical perspective, a comprehensive understanding of effective pronunciation instruction must also consider how learners experience it. Learners' perceptions, expectations, and personal goals all play a vital role in shaping their engagement, motivation, and confidence throughout the learning process. This section, therefore, explores how students perceive pronunciation instruction and what they expect from it, as well as the goals they aspire to achieve.

2.3.1 Learner Perceptions of Pronunciation Instruction

In recent decades, EFL learner perceptions have become increasingly recognized as important factors influencing the effectiveness of language instruction. Foundational studies by Horwitz (1988) and Cotterall (1999) highlight the significance of understanding learners' beliefs, providing the basis for a growing body of research that investigates how students perceive different aspects of language learning. Since then, research on learner perceptions has expanded to include areas such as classroom methodologies, corrective feedback, and the use of technology in the EFL classroom (cf. Brown, 2009; Chen et al., 2016; Geçkin, 2020). These studies have demonstrated that learner beliefs can shape engagement, motivation, and learning outcomes; hence, students' perspectives should be considered a key factor in discussions about effective teaching practices.

Despite this general increase in perception-based research, comparatively little attention has been paid to learners' beliefs about pronunciation instruction, a gap noted by scholars such as Simon and Taverniers (2011), Müller (2011), and Baker and Murphy (2011). More recently, Levis (2021), in an interview with Martha C. Pennington, emphasized the urgent need for research explicitly focused on how learners perceive pronunciation instruction, particularly given its marginalized role in many language programs. This limited research attention can partly be explained by pronunciation instruction's historically peripheral status within language curricula and teacher education programs, where it has often received less focus than grammar or vocabulary (cf. Darcy, 2018, pp. 13) and suffered from a lack of instructional time, suitable materials, and teacher training (cf. Baker, 2014, p. 138; Darcy, 2018, p. 17; Pardede, 2018, pp. 144–145). As a result, learners' views about pronunciation instruction have often been overlooked, even though they may hold valuable insights into its effectiveness and relevance.

Although research in this area remains limited, the studies that do exist consistently show that EFL students view pronunciation as both difficult and important, expressing a desire for more explicit and frequent instruction (e.g., Alghazo, 2015; Cenoz & García Lecumberri, 1999; Derwing & Rossiter, 2002; Nguyen et al., 2021). According to Cenoz and García Lecumberri (1999, p. 7), EFL learners at the tertiary level generally recognize pronunciation as a crucial yet challenging aspect of language learning, often feeling that they lack sufficient support to develop it effectively.

Similarly, Derwing and Rossiter (2002, p. 161) found that 90% of adult immigrant learners enrolled in a full-time college-level ESL program in Canada expressed interest in taking a dedicated pronunciation course. Alghazo (2015, p. 66) further supports this by showing that Saudi EFL university students not only acknowledged the value of pronunciation but also reported dissatisfaction with limited instructional time and emphasized the need for explicit, well-designed pronunciation courses. In a more recent study, Nguyen et al. (2021, pp. 6–7) found that Vietnamese tertiary-level EFL students viewed pronunciation instruction as essential for developing listening, speaking, and communicative competence, and preferred approaches that provided clear phonetic guidance and communicative practice. Overall, these findings indicate that learners are not only aware of the importance of pronunciation but have also consistently expressed a desire for more structured, explicit, and effective support, especially at the tertiary level.

Beyond expressing a need for more structured and explicit instruction, learners' perceptions of pronunciation also play a role in shaping their level of engagement in the learning process. In fact, when students view pronunciation instruction as meaningful, helpful, and relevant to their goals, they are more likely to practice consistently and remain motivated to improve (cf. Burri, 2023; Derwing & Rossiter, 2002; Lamarca et al., 2016; Li & Qi, 2023; Nguyen et al., 2021; Pardede, 2018; Schaetzel, 2009). Pardede (2018, p.153), for example, found that 81% of EFL university students in his action research project regularly practiced pronunciation outside of class because they found the materials engaging and beneficial for their learning. Similarly, Lamarca et al. (2016, p. 12) observed that students' confidence increased when pronunciation activities were perceived as enjoyable and productive, which in turn encouraged more active participation. These examples demonstrate that positive perceptions of pronunciation instruction can have a meaningful impact on learner progress.

While positive perceptions of pronunciation instruction can boost motivation and active engagement, conversely, when learners view instruction as ineffective or insufficient, they may experience discouragement, low confidence, or disengagement (cf. Darcy 2018; Schwarz et al., 2021). Such emotional responses are often linked to foreign language speaking anxiety (FLSA), which Horwitz et al. (1986, p. 128) define as "a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to

classroom language learning". In pronunciation contexts, FLSA may stem from fear of negative feedback or feelings of embarrassment when speaking in front of others. Learners frequently report that the constant assessment of their speech, while pedagogically necessary, can feel face-threatening, especially when their progress is slow or inconsistent (Schwarz et al., 2021, p. 110). These fluctuations are not unusual in pronunciation development; hypercorrections, performance plateaus, and occasional regressions into old habits are well documented (cf. Eckman et al., 2013; Sturm, 2019). Such setbacks can be discouraging for learners and may lead to frustration or disengagement. Macdonald (2002, p. 13) notes that a lack of targeted pronunciation instruction can result in persistent communicative difficulties at more advanced stages, particularly in academic or professional contexts. Similarly, Levis (2005, p. 374) argues that mispronunciations can damage a speaker's credibility, further amplifying feelings of inadequacy.

In light of these findings, it becomes clear that learners' perceptions play a pivotal role in the effectiveness of pronunciation instruction, influencing not only motivation and engagement but also shaping their emotional responses to the learning process. Students consistently perceive pronunciation as both important and challenging, and they express a strong desire for instruction that is explicit, well-structured, and perceived as relevant to their communicative development. When instruction aligns with these expectations, learners are more likely to remain motivated, confident, and actively engaged. Conversely, when it is perceived as insufficient or misaligned, it can lead to frustration, reduced self-confidence, and disengagement. These insights highlight the need for pronunciation instruction that not only supports learners cognitively but also fosters a positive, low-stress environment in which students feel motivated to improve.

2.3.2 Learner Expectations and Pronunciation Goals

Having examined how learners perceive pronunciation instruction and how these perceptions influence motivation and engagement, it is equally important to consider what learners expect from instruction. This is particularly relevant given that recent research suggests these expectations often diverge from the instructional practices learners actually experience. For instance, Burri (2023, pp. 134–136) found that although students expressed a strong desire to improve their pronunciation and welcomed corrective feedback, most classroom instruction remained highly teacher-

centered and controlled. In fact, 81% of observed activities relied on controlled techniques such as drills or reading aloud, with minimal opportunities for guided or free, communicative practice (Burri, 2023, pp. 134). This mismatch between learner expectations and instructional reality can undermine engagement and reduce the overall effectiveness of instruction. Burri's findings highlight the need for more communicative, student-centered approaches that incorporate pair work, guided practice, and meaningful pronunciation tasks to complement explicit instruction and meet learners' expectations.

In addition to their expectations about how pronunciation should be taught, learners also differ in the goals they pursue. While some learners are primarily concerned with improving intelligibility, research indicates that a considerable number continue to pursue native-like accuracy as their ultimate pronunciation goal (e.g., Levis, 2015; Nowacka, 2012; Waniek-Klimczak et al., 2013; Simon & Taverniers, 2011). Dalton-Puffer et al. (1997, p. 126) similarly found that Austrian university students of English often expressed dissatisfaction with their own non-native accents, suggesting an implicit preference for more native-like pronunciation. However, this preference for native-likeness is not universal: studies of more diverse learner populations have shown that intelligibility, rather than accent elimination, is increasingly prioritized, particularly among non-university learners (cf. Tergujeff, 2013, p. 45).

One explanation for these differing goals lies in learners' educational and professional contexts. University students, who frequently pursue advanced academic or career-related language use, may be more likely to set ambitious pronunciation targets, including native-like accuracy. In contrast, learners in earlier educational stages often adopt more pragmatic goals (Pawlak et al., 2015, p. 19). Even among tertiary learners, however, there is often a tension between aspirational goals and practical needs: as Waniek-Klimczak (2011, p. 129) notes, students may aim for native-like pronunciation but prioritize fluency and communicative ease in real-world interactions.

Supporting this trend toward more functional goals, Buczek-Zawiła (2018, p. 268) found that 72% of Polish university students identified "comfortable intelligibility" as their primary pronunciation goal. Although few aspired to achieve full native-like pronunciation, most participants recognized the communicative and aesthetic value of clear, intelligible speech and expressed a strong desire to improve. Such learner

preferences mirror the broader pedagogical shift toward intelligibility as a more realistic and communicatively effective target in EFL contexts.

Overall, understanding learner expectations and goals is crucial for aligning pronunciation instruction with students' actual needs. However, while several studies have investigated these aspects across different learner populations, little is known about how L1 German university students conceptualize their pronunciation goals or how these evolve over time. In particular, few studies have explored how explicit instruction may influence learners' perceptions of their accent, motivation, confidence, or sense of goal achievement. This study seeks to address that gap. Before turning to the empirical investigation, it is essential to examine which instructional approaches are most effective in supporting tertiary-level learners in achieving their pronunciation objectives.

2.4 Pronunciation Teaching Approaches at the Tertiary Level

Recognizing the communicative demands placed on tertiary-level EFL learners and the increasing preference among students for intelligibility as their main pronunciation goal (see Chapter 2.3), it is essential to examine how pronunciation instruction can support the development of clear, effective, and confident speech. As the focus of pronunciation teaching has gradually shifted away from native-like targets toward more realistic, communicatively oriented goals, the need for effective instructional approaches[4] has become increasingly relevant. This section explores two key aspects of pronunciation instruction in the tertiary EFL context. The first aspect concerns the distinction between explicit and implicit instruction, while the second focuses on the instructional emphasis, namely, whether to prioritize segmental or suprasegmental features.

2.4.1 Explicit vs. Implicit Pronunciation Instruction

To better understand how current instructional practices evolved and to clarify the role and characteristics of EPI, it is helpful to briefly consider the historical development of pronunciation teaching in EFL. Earlier pedagogical methods, such as *The Silent Way* and *Audiolingualism,* emphasized form-focused instruction, relying heavily on explicit

[4] An approach refers to a broad pedagogical orientation grounded in theory (cf. Harmer, 2015, p. 54), while a method denotes the specific procedures and materials used to implement that approach in practice (cf. Celce-Murcia, 1991, pp. 5–6). Although some teaching methods are referenced to illustrate how instructional approaches have been applied in EFL contexts, this chapter focuses on approaches rather than methods.

techniques such as imitation and repetition (Celce-Murcia et al., 2010, p.4). EPI is characterized by a structured, conscious approach that targets both segmental and suprasegmental features through focused explanation, guided practice, models, and corrective feedback. It promotes metalinguistic awareness by introducing pronunciation rules and patterns and encourages learners to compare their output with target forms, facilitating greater control over speech production and fostering long-term development (Kelly, 2000, p. 15; Lamarca et al., 2016, p. 7; Yakut, 2020, p. 113).

This emphasis on explicit instruction shifted notably with the emergence of *Communicative Language Teaching* (CLT), which prioritized fluency and meaningful interaction often at the expense of phonological accuracy (Celce-Murcia et al., 2010, p. 7). In CLT, pronunciation is typically approached implicitly, through activities like role plays, storytelling, and discussions, with the expectation that learners will acquire pronunciation patterns naturally through exposure (cf. Ellis, 2009; Krashen, 1984; Norris & Ortega, 2000). More precisely, implicit pronunciation instruction aims to develop learners' phonological skills without overt focus on phonetic forms, aligning with broader CLT principles. However, Levis (2005, p. 369) critiques the predominance of implicit instruction, arguing that its preference has often been ideologically motivated rather than empirically justified.

Given these evolving perspectives, it is important to critically assess which instructional approach, explicit or implicit, best supports the pronunciation development of tertiary-level EFL learners. A growing body of research consistently demonstrates that EPI is more effective than implicit instruction for improving tertiary-level learners' pronunciation skills. In fact, direct comparisons of explicit and implicit approaches show a clear advantage for explicit instruction. For instance, Yakut (2020, pp. 109–110) found that B1-level university students in an English program in Turkey made statistically significant gains in segmental sound production following explicit pronunciation training, concluding that explicit instruction offers distinct advantages over implicit methods. Similarly, Zhang and Yuan (2020, p. 913) reported that second-year Chinese undergraduates who received explicit instruction, whether segmental- or suprasegmental-focused, demonstrated significantly greater progress in intelligibility compared to a group that received no pronunciation instruction. Notably, students who received suprasegmental-focused instruction showed improvements in spontaneous speech that were maintained over time. Additionally, Gordon and Darcy (2016, p. 82)

showed that high-intermediate English as a Second Language (ESL)[5] students enrolled in an American university program benefited more from explicit suprasegmental instruction than from non-explicit methods, with students in the explicit instruction group displaying improved intelligibility and increased awareness of communication issues arising from pronunciation errors. Likewise, Galante and Piccardo (2022, p. 385) found that international ESL students from diverse L1 backgrounds significantly improved their intelligibility and phonological awareness following explicit instruction in a university-based pronunciation course, further highlighting the effectiveness of EPI in tertiary-level settings.

Further evidence supporting the effectiveness of EPI comes from studies that not only demonstrate linguistic gains but also highlight positive learner perceptions. For instance, Pardede (2018, pp. 152–153) observed that 21 adult EFL learners enrolled in the English Education program at Universitas Kristen Indonesia significantly improved their pronunciation skills following EPI that incorporated texts, audios, videos, and transcription, whereas prior incidental learning had failed to yield substantial progress. Notably, participants also reported that EPI boosted their confidence and motivation (Pardede, 2018, p. 153). Similar findings were reported by Lamarca et al. (2016, pp. 12–15), who emphasized that positive emotional responses to pronunciation instruction are crucial for sustained engagement and additionally demonstrated that explicit instruction significantly improved the intelligibility of Thai vocational college students compared to a control group receiving non-explicit instruction. Post-test results revealed that although both groups made progress, the experimental group's intelligibility scores were substantially higher, leading the researchers to conclude that EPI is more effective in promoting intelligible speech. These findings are especially relevant in light of the discussion in Chapter 2.3, which highlighted the central role of learners' perceptions of pronunciation instruction in influencing their motivation, engagement, and overall learning outcomes.

Beyond individual studies, several meta-analyses and broader reviews confirm the general efficacy of EPI for EFL learners at the tertiary level. These studies consistently show that EPI helps adult learners develop more intelligible, fluent, and

[5] Although the focus of this study is on EFL learners, relevant ESL-based research was also considered. As scholars have noted, increased exposure to English through media, the internet, gaming, and social media has significantly blurred the lines between EFL and ESL environments (cf. Crystal, 2012; Jenkins, 2007), particularly in contexts like Austria, where learners frequently engage with English beyond formal instruction.

comprehensible English speech (e.g., Darcy, 2018; Gordon & Darcy, 2022; Mahmood, 2023; Saito, 2012). Complementing these broader findings, Alghazo et al. (2023, pp. 7–8) examined the effects of EPI on tertiary-level Jordanian EFL students and found significant improvement across segmental, syllabic, and prosodic aspects of pronunciation. Further evidence comes from studies focusing specifically on phoneme-level improvements. For example, Saito (2011, p. 54) demonstrated that explicit training on challenging English phonemes such as /æ/, /f/, /v/, /θ/, /ð/, /w/, /l/, and /r/ resulted in measurable gains among tertiary-level Japanese EFL learners. In a later study, Saito and Lyster (2012, p. 624) confirmed that explicit instruction was effective in improving the pronunciation of specific problematic sounds like /r/ in the same learner population. Hence, these findings further consolidate the view that EPI is a highly effective approach for improving adult EFL learners' pronunciation skills.

2.4.2 Segmental vs. Suprasegmental Features in Pronunciation Instruction

Having established the advantages of EPI for tertiary-level EFL learners, it is important to consider which instructional focus, segmentals, suprasegmentals, or a combination of both, best supports the goal of developing intelligible and effective communication skills. As discussed in Chapter 2.1, both segmental (e.g., vowel sounds) and suprasegmental features (e.g., intonation) are essential components of comprehensible and effective communication. However, research consistently shows that explicitly taught suprasegmental features often lead to greater improvements in spontaneous speech comprehensibility, while segmental accuracy remains critical for foundational intelligibility (e.g. Gordon & Darcy, 2016; Derwing et al. 1998; Derwing & Munro, 2015; Zhang & Yuan, 2020).

A number of studies directly comparing segmental and suprasegmental instruction highlight these nuances. Derwing et al. (1998) found that although both groups, those receiving segmental-focused and those receiving suprasegmental-focused instruction, achieved gains in controlled tasks such as sentence reading, only the suprasegmental group demonstrated significant improvement in comprehensibility during free speaking tasks (i.e., picture descriptions). Their study is considered foundational in pronunciation research and emphasizes that pronunciation outcomes depend not only on the instructional target but also on the evaluation measure and context. One explanation proposed for the superiority of suprasegmental instruction in spontaneous

contexts is that broader prosodic patterns are more easily applied when cognitive demands are high (Saito & Plonsky, 2019, p. 12).

Further supporting these findings, Zhang and Yuan (2020) replicated and extended Derwing et al.'s (1998) work in an EFL setting with Chinese undergraduate students. The results showed that while both the segmental and suprasegmental groups made notable gains in controlled sentence-reading tasks, only the suprasegmental group exhibited statistically significant improvement in spontaneous speech, which was also retained in a delayed post-test (pp. 912–914). Similarly, Gordon and Darcy (2016, p. 85) observed that suprasegmental-focused learners showed marked gains in comprehensibility following a short-term intervention, a pattern confirmed in a subsequent study where suprasegmental training led to significantly greater improvements in fluency and spontaneous production compared to either segmental or mixed instruction (Gordon & Darcy, 2022, p. 182). These findings reinforce the idea that suprasegmental instruction is particularly beneficial for enhancing real-time communicative effectiveness, especially under conditions of high cognitive load (Saito & Plonsky, 2019, p. 12).

Nevertheless, segmental instruction remains crucial, particularly for building a stable phonological foundation. Although suprasegmental instruction tends to yield greater gains in spontaneous speech, studies such as those by Saito and Plonsky (2019, p. 34) and Zhang and Yuan (2020, p. 913) indicate that segmental-focused instruction often leads to slightly larger effect sizes in controlled pronunciation tasks. Segmental training is thus vital for ensuring intelligibility at the word level, providing essential support for more complex suprasegmental patterns to emerge. Some studies indicate that EPI benefits both segmental and suprasegmental development. For instance, Naeini and Adni (2017, p. 116) found that learners demonstrated improved accuracy in producing English consonants and vowels after instruction, while Saito's (2012, p. 849) synthesis of 15 quasi-experimental studies reported improvements in both segmental and suprasegmental features, with no consistent pattern favoring one over the other. Pardede's (2018, pp. 152–153) action research study also demonstrated that explicit instruction effectively enhanced learners' pronunciation across segmental (i.e., specific sounds) and suprasegmental (i.e., pausing, linking, intonation) domains.

Overall, while EPI targeting both segmental and suprasegmental features can be effective, a significant body of research suggests that suprasegmental instruction

tends to produce greater gains in overall comprehensibility and fluency, particularly in spontaneous communication (e.g., Gordon et al., 2013; Gordon & Darcy, 2022; Zhang & Yuan, 2020). However, segmental instruction remains indispensable for ensuring basic intelligibility. As Darcy (2018, p. 29) aptly summarizes, “The best intonation is useless if the foundation it is built on, the segmentals, is unintelligible”. Therefore, the most effective approach likely involves integrating both segmental and suprasegmental instruction, tailored to learners’ specific needs and communicative goals. Recognizing that various aspects of pronunciation, such as intelligibility, comprehensibility, and fluency, are affected differently depending on the type of instruction and task context (e.g., controlled vs. spontaneous speech) is crucial for designing balanced and effective pronunciation curricula.

Having established the effectiveness of EPI for a range of learner populations with different language backgrounds, as demonstrated throughout this chapter, it becomes clear that another notable gap in the literature remains, namely, the limited attention paid to the effectiveness of EPI for EFL learners with German as their first language, particularly at the tertiary level. This study seeks to contribute to addressing this gap. Before turning to the empirical part of the thesis, however, it is equally important to consider the role of model accents in providing learners with clear and pedagogically meaningful pronunciation targets.

2.5 Model Accents in EFL Tertiary-Level Pronunciation Instruction

While the previous sections have focused on how pronunciation can be taught and which instructional targets should be prioritized, the question remains: Toward which accent should learners be guided? For many EFL learners, particularly at the tertiary level, having a clearly defined and consistent pronunciation model provides both structure and motivation. Therefore, this section investigates which pronunciation models prevail in EFL contexts and why they remain pedagogically relevant.

2.5.1 Native Models

Before turning to the two most commonly used model accents in tertiary-level pronunciation instruction, it is essential to define what is meant by a *model* in this context. As Schmitt (2016, p. 27) explains, a model refers to a specific variety of English that serves as a consistent point of reference for instruction. Importantly, this concept is distinct from *targets* or *norms* in language learning, as a model does not

necessarily imply full adherence to native-speaker usage. Rather, it provides learners with guidance regarding the direction of their pronunciation development (Schmitt, 2016, p. 27). Although the overarching goal of pronunciation teaching has shifted from promoting native-like accuracy to fostering intelligibility (see Chapter 2.2.2), using a stable model remains pedagogically valuable. Indeed, this makes the continued use of pronunciation models even more valuable, as they offer structure and orientation, helping learners navigate the diversity of English varieties without requiring uniformity in production (Dalton & Seidlhofer, as cited in Jenkins, 2000, p. 18).

This need for structure and orientation becomes especially important in the context of tertiary-level EFL instruction, where students are expected to meet advanced communicative demands in both academic and professional settings (see Chapter 2). In such environments, a pronunciation model provides clarity and consistency while guiding learners toward speech that is both intelligible and contextually appropriate. In this context, selecting an appropriate model accent becomes a pedagogical decision of considerable relevance. Importantly, native-speaker accents are also frequently the most desired by students, as shown in a study of university-level English majors conducted at the University of Vienna (cf. Dalton-Puffer et al., 1997). Although stereotypical associations may influence such preferences, learner attitudes should not be disregarded, as mismatches between model selection and learner expectations may negatively affect motivation.

Against this backdrop, it is not surprising that British and American English continue to serve as the primary model varieties in most EFL classrooms (Henderson et al., 2015, p. 20; Rogerson-Revell, 2011, p. 6; Walker, 2010, p. 5). These are most represented in pronunciation instruction by Received Pronunciation (RP) and General American (GA), respectively (Schmitt, 2016, p. 28). Their continued dominance reflects not only historical prestige but also practical considerations related to language teaching, including their well-documented phonological systems and the widespread availability of instructional resources (Schmitt, 2016, p. 29). Understanding how these models have evolved and why they remain influential despite the growing recognition of alternative varieties is particularly relevant when designing pronunciation instruction for tertiary-level learners. Accordingly, the following sections examine the development, accessibility, and pedagogical suitability of each accent in more detail.

2.5.2 Received Pronunciation

Received Pronunciation (RP) is widely regarded as one of the most thoroughly documented and systematically described English accents and was therefore once widely promoted as the ideal model for learners due to its clarity and codification (Macaulay, 1988, p. 123). Often referred to as “BBC English” or “the Queen’s English” (Schmitt, 2016, p. 33), RP reflects a socially prestigious variety of southern British English historically associated with the educated elite, particularly those linked to public schools and upper-class London society (Wells, 1982, p. 10). Although the accent itself predates the term, it was in the early 20th century that *Received Pronunciation* became codified as a model accent, primarily through the work of Daniel Jones, who popularized the label in his *English Pronouncing Dictionary* (1917). Its rise as a national standard was reinforced by the influence of elocutionists and, crucially, by the BBC’s adoption of RP as its broadcasting norm in the 1920s. Because of its non-localizable character and institutional support, RP came to be regarded as the de facto standard for spoken British English in education and the media (Schmitt, 2016, pp. 30–31).

Despite this historical status, RP is now spoken by only a small minority. The commonly cited estimate of 3% originates from Trudgill’s (1974) localized study in Norwich, although broader classifications such as ‘Near-RP’ may suggest higher figures (Schmitt, 2016, p. 32). More significantly, RP’s social status has shifted, with its former prestige increasingly giving way to perceptions of elitism or artificiality. As Brown (1992, p. 3) points out, the association of RP with authority and education may provoke adverse reactions or even stigmatization.

This shift in perception is particularly evident among learners at the tertiary level, who increasingly question the relevance of adopting a variety so narrowly associated with a specific social group. Such questioning is reflected in a growing preference for GA over RP, especially for productive tasks such as speaking, as shown by empirical studies conducted in the 21st century (Henderson et al., 2015, p. 21). This trend is further supported by a recent Austrian study, which found that American English frequently serves as the default choice for undecided learners, a preference driven largely by media exposure and the perception that it is easier to acquire (Richter & Weissenbäck, 2022, pp. 99–101). These findings are consistent with research from

Norway (Rindal & Piercy, 2013; Rindal, 2015) and Sweden (Flisberg, 2018), which likewise report a growing preference for GA among university students.

Although learner preferences are clearly shifting, RP continues to be widely used as a reference model in many instructional contexts. A large-scale survey by Henderson et al. (2015, p. 21) revealed that a majority of EFL teachers still rely on RP as their main pronunciation model. While this data is over a decade old and some shifts may have occurred since then, RP's ongoing prominence in teaching materials and curricula raises important questions about its pedagogical suitability today. Several of its features, such as non-rhoticity, a complex vowel system, and the use of linking and weak forms, can pose significant challenges for learners (Rogerson-Revell, 2011, p. 7). At the same time, its limited real-world speaker base and the perception of RP as increasingly elitist and detached from everyday usage raise concerns about its continued role as the default model. These concerns are mirrored in terminological shifts: alternatives such as 'BBC pronunciation' (Roach, 2000, p. 3) and 'General British' (Cruttenden, 2014, p. 3) have been proposed to reflect its changing status. Other southern British varieties, such as 'Standard Southern British English' or 'Estuary English', are increasingly viewed as more accurate and accessible representations of contemporary spoken British English (Beal, 2010, p. 1; Przedlacka, 2005, p. 31).

Taken together, these linguistic, social, and pedagogical factors suggest the need to reconsider whether RP should remain the primary model for pronunciation instruction in EFL contexts, or whether it might be more realistic to work with a more current British standard. Given the growing number of students who express a preference for GA, it is important to examine this variety and its role in pronunciation teaching, which is the focus of the following section.

2.5.3 General American

In contrast to RP, GA did not emerge from a specific institution or social class; instead, it developed through broader demographic and geographic processes. Its roots lie in the westward expansion of the United States, during which early dialect differences along the Atlantic coast gradually blended into more uniform speech patterns, a phenomenon often referred to as the 'melting pot' effect (Schmitt, 2016, p. 34). By the mid-twentieth century, GA had become the dominant accent in American radio and

television, earning it the label ‘Network English’ and reinforcing its perception as a national standard (Schmitt, 2016, ibid.). Although not tied to a particular region, GA is associated with a set of phonological features widely shared across speakers in the central and western United States. Because these features are not strongly linked to any specific region, GA came to be perceived as a socially neutral and broadly accessible variety (Newbrook, 1991, p. 77; Preston, 2005, p. 39).

However, this perception of GA as a coherent and unified accent masks considerable internal variation. GA is often described as a ‘catch-all’ term encompassing a range of phonological patterns, particularly in vowel realizations such as the *cot-caught merger* (Schmitt, 2016, p. 34). Rather than being defined by a fixed set of regional features, GA is typically characterized by the absence of markers associated with more geographically marked accents, such as those of New England or the American South (Wells, 1982, p. 470). This internal diversity has also raised questions about the label itself. Some scholars have criticized the term *General American* for implying a homogeneous or idealized standard that does not exist in practice (Kretzschmar, 2008, p. 43). In response, alternatives such as *North American English* have been proposed to reflect the close phonological alignment between U.S. and Canadian varieties (Boberg, 2015, p. 229).

Despite this variation, GA-like varieties remain highly prevalent in terms of global exposure and media presence, which has important implications for pronunciation teaching. Jenkins (2000, p. 204) estimates that roughly one-third of speakers in the U.S. and Canada use GA-like accents, while Kortmann (2005, p. 260) places the figure closer to two-thirds. Regardless of the exact proportion, the demographic weight of the United States, home to nearly 70% of the world’s native English speakers (Crystal, 2003, p. 60), makes it highly likely that learners will encounter GA through global communication, particularly via media exposure. This widespread familiarity reinforces its pedagogical relevance, particularly in settings that prioritize intelligibility and communicative competence.

In addition to its global reach, GA offers several phonological features beneficial to EFL learners. Firstly, GA’s vowel system is often considered less challenging for learners compared to that of RP (Newbrook, 1991, p. 78). Another advantage lies in its rhoticity; as a rhotic variety, GA corresponds more closely with orthographic forms, potentially enhancing spelling-pronunciation consistency. Indeed, Roach (2000, p. 5)

highlights that rhotic varieties, which include accents such as GA, reflect spelling more transparently and may therefore facilitate pronunciation learning. Despite these advantages, learners' first language background continues to play a significant role in influencing pronunciation difficulty. For instance, German speakers often struggle with the GA rhotic /r/, typically substituting it with a uvular or trilled variant familiar from their native phonological system (Avery & Ehrlich, 1992, p. 139). Nonetheless, GA's phonological characteristics remain appealing and pedagogically effective in many EFL contexts.

To conclude, model accents continue to serve as valuable reference points in tertiary-level pronunciation instruction, offering learners orientation, consistency, and pedagogical clarity. While both RP and GA remain dominant models, they differ in terms of their origins, social associations, and phonological characteristics. The decision of which model to adopt ultimately rests with instructors or institutions, but it should be guided by learner needs, communicative goals, and instructional context.

While the previous chapter identified a research gap concerning the limited attention paid to L1 German learners in pronunciation instruction, a closely related issue has received even less consideration: the effectiveness of EPI in helping these learners approximate the GA accent. Taken together, these gaps highlight the need for further research into how EPI can support this specific learner group. This study aims to address both areas. In order to provide the necessary foundation for this investigation, the following chapter explores the segmental and suprasegmental challenges typically encountered by L1 German learners in acquiring features of GA pronunciation.

3 Specific Pronunciation Challenges of Austrian Learners of GA

As both German and English belong to the Germanic language family, they share several linguistic characteristics, including similarities in syntax, vocabulary, and phonology, which generally facilitate language learning for German speakers (Avery & Ehrlich, 1992, p. 138; Swan & Smith, 2001, p. 37). Despite these beneficial similarities, there are notable phonological differences that frequently complicate the accurate acquisition of English pronunciation. Indeed, literature consistently emphasizes that German-speaking learners tend to transfer phonological patterns from their native language, including phoneme inventories, vowel qualities, and intonation patterns (cf. Avery & Ehrlich, 1992, pp. 137–139; Schmitt, 2016, p. 95). As

a result, these transfer effects significantly affect learners' foreign accent and overall intelligibility.

Importantly, the extent and specific nature of these transfer effects can vary considerably depending on learners' regional German variety. More precisely, Austrian German represents a distinct national variety that notably differs from Standard German in vowel closeness, diphthong realization, stress placement, and prosodic characteristics (Richter, 2019, pp. 136–137). Highlighting these phonological differences is therefore particularly relevant to this study, as it enables a more nuanced understanding of the pronunciation challenges faced by ALs. Consequently, the following sections outline key segmental and suprasegmental features identified in the literature as generally challenging for German-speaking learners of GA, with additional emphasis placed on those features specifically pertinent to speakers of Austrian German.

3.1 Segmental Features

Segmental features, comprising vowels and consonants, represent the smallest phonological units of spoken language and thus form the basis for accurate pronunciation. These individual sounds, known as phonemes, are the smallest meaning-distinguishing units within a language (Yule, 2023, p. 49). Consequently, even minor deviations in pronunciation can significantly impact intelligibility, as previously shown in Chapter 2.1 by Kelly's (2000, p. 11) example of mispronouncing the vowel sound in the word <soup> as /səʊp/ (in GA: /soʊp/) rather than /suːp/. Such issues commonly arise because, when encountering unfamiliar phonemes, learners tend to substitute them with similar sounds from their native language (Schmitt, 2016, p. 95). Due to notable differences between German and English phonemic inventories, these substitutions frequently result in pronunciation difficulties for German-speaking learners of GA. In order to systematically explore these segmental challenges, the following sections first examine vowel sounds, before turning to consonants.

3.1.1 Vowels

Given the substantial differences between the vowel inventories of English and German, it is unsurprising that vowel sounds constitute a common source of difficulty for German-speaking learners of GA. Even vowels that initially seem similar in both languages can result in pronunciation errors. For instance, German speakers

frequently pronounce the English vowel in *luck* similarly to the German vowel in *Lack* despite the English vowel being slightly more centralized and raised towards schwa (Schmitt, 2016, p. 95). Schmitt (2016, p. 182) adds that although some vowels may appear equivalent in phonemic transcription, their actual articulation differs across languages. For instance, while both German *Schuh* and English *shoe* may be transcribed as /ʃuː/, their vowel realizations vary in subtle but meaningful ways. These differences often go unnoticed by EFL learners.

One particularly challenging vowel for German-speaking learners is /æ/, as found in *cat* or *bad*. As Schmitt (2016, pp. 104–106) explains, this vowel represents one of the most persistent pronunciation difficulties, largely because German lacks a near-open front vowel that corresponds to it. As a consequence, learners often substitute /æ/ with the more familiar open-mid vowel /e/, which leads to confusion in minimal pairs such as *cattle* and *kettle*, both of which may be pronounced identically. Notably, Schmitt (2016, p. 106) refers to /æ/ as a “camouflage phoneme”, underlining the challenge learners face in recognizing it as distinct from vowels in their native phonological system.

Additional vowel sounds causing significant challenges for German learners include /ʌ/, /ɝː/, and diphthongs such as /eɪ/ and /oʊ/. The vowel /ʌ/, as in *cup*, is often confused with the more open /ɑː/ because learners tend to open their mouths too widely, which alters the intended vowel quality (Richter, 2019, p. 132). Similarly, /ɝː/ as in *nurse* is commonly substituted with a slightly modified German /øː/, despite significant articulatory differences in tongue position and roundedness (Schmitt, 2016, p. 188). Moreover, diphthongs such as /eɪ/, as in *play*, are frequently simplified into monophthongs like /eː/ (Richter, 2019, p. 132; Swan & Smith, 2001, p. 38). Schmitt (2016, pp. 188–189) further explains that rising diphthongs such as /aɪ/, /aʊ/, and /ɔɪ/ differ in their prominence patterns: while English speakers emphasize the first element and allow the second to fade (a so-called “diminuendo diphthong”), German speakers typically maintain even stress throughout, resulting in unnatural-sounding GA diphthongs.

Additionally, German-speaking learners tend to confuse certain English vowel contrasts by relying on vowel length rather than quality. As Schmitt (2016, p. 186) points out, this is especially noticeable with the vowels /ɑː/ as in *lot* and /ɔː/ as in thought. Learners often pronounce both with a similar vowel quality, failing to reflect

the intended distinction, and instead attempt to differentiate them by making /ɔː/ slightly longer. This reliance on length, rather than producing two distinct vowel qualities, frequently leads to unnatural or imprecise pronunciation.

Having outlined the general vowel-related challenges that L1 German learners encounter when acquiring the GA accent, it is now useful to consider these difficulties specifically from the perspective of ALs. Table 1 provides an overview of vowel sounds that are said to be particularly problematic for Austrian German speakers.

Table 1. *Challenging GA Vowels for Austrian German Learners* [6]

Vowle Sounds	Example Words	Common Challenges for ALs
/æ/	pat, man, bat	Confused with /e/ (pet, men, bet); mouth not open enough.
/ɝː/	bird, girl	Pronounced like German /øː/ (*schön*); lips incorrectly rounded.
/ʌ/	hut, buddy, gut	Produced as /ɑː/ (*father*); mouth overly open.
/ɪ/ vs. /iː/	bit vs. beat	Excessive tension; short vowels too tense and similar to long vowels.
/ʊ/ vs. /uː/	book vs. boot	Excessive tension; short vowels produced too similarly to long vowels.
/eɪ/, /aɪ/, /oʊ/	play, smile, rose	Second part of diphthongs omitted; pronounced as single vowels.
/ɑː/	father	Not produced long enough; overly rounded, closer to /ɔː/

Table 1 clearly shows that many of the vowel-related difficulties observed among ALs of GA build on the issues already discussed, such as the substitution of /æ/ with /e/, the overly open articulation of /ʌ/, the simplification of diphthongs like /eɪ/ and /oʊ/, and the reliance on vowel length rather than quality in certain contrasts (e.g., /ɑː/ vs. /ɔː/). However, the table also brings to light additional challenges that had not yet been addressed in this section and are particularly salient in the Austrian context. A key difficulty that emerges from the table concerns the articulation of lax vowels: ALs often produce /ɪ/ and /ʊ/ with excessive muscular tension, which results in overly tense realizations that closely resemble their long counterparts /iː/ and /uː/. This blurring of

[6] This table is based on a course booklet developed for a GA pronunciation class at the University of Vienna by university lecturers and pronunciation specialists Mag. Amy Bruno-Lindner, Dr. Thomas Martinek, Mag. Derek Vollans, and Mag. Dr. Andreas Weissenbäck. Additional information was drawn from Avery and Ehrlich (1992), who outline pronunciation challenges for L1 German learners of GA, as well as from Swan and Smith (2001) and Schmitt (2016), who discuss general difficulties German speakers face when acquiring an English accent.

contrasts is closely tied to vowel length, a difficulty emphasized by Richter (2019, p. 138), who, drawing on Wieden and Nemser (1991, as cited in Richter), highlights ALs' persistent problems distinguishing between high vowel pairs such as /iː/ vs. /ɪ/ and /uː/ vs. /ʊ/. These difficulties are likely influenced by the phonetic characteristics of Austrian German, where vowels tend to be produced with a higher tongue position, resulting in generally "closer" realizations than in GA (Richter, 2019, p. 137). Importantly, Wieden and Nemser (1991, as cited in Richter, 2019, p. 138), observed that vowels generally posed greater challenges than consonants for ALs. Nonetheless, a closer examination of the consonantal domain is still warranted and is thus the focus of the following section.

3.1.2 Consonants

Although vowel production often receives more attention, consonants pose equally significant challenges for German-speaking learners of GA. As Richter (2019, p. 132) explains, several English consonants are either absent from the German sound system or differ considerably in terms of voicing, place, or manner of articulation. These cross-linguistic mismatches frequently lead to substitutions, phonemic confusion, and reduced intelligibility.

A central issue is final obstruent devoicing (FOD), a well-documented German phonological rule in which voiced obstruents, plosives, fricatives, and affricates are devoiced in final syllable position. For instance, *Rad* and *Rat* are both pronounced [ʁaːt] in German, despite their spelling (Schmitt, 2016, p. 114). This rule often transfers to English, where final voicing contrasts are phonemic. As a result, learners may pronounce *bag* as *back* or *believe* as *belief* (Schmitt, 2016, p. 114). Avery and Ehrlich (1992, p. 138) similarly note that German learners frequently devoice final /b/, /d/, /g/, /v/, /ð/, /z/, /ʒ/, and /dʒ/. Beyond intelligibility, such substitutions can distort vowel length cues: as Richter (2019, p. 133) explains, English speakers apply pre-fortis clipping, shortening vowels before voiceless consonants, and pre-lenis lengthening, whereby vowels are lengthened before voiced ones. For example, the vowel in *have* is slightly longer than in *half.* Since these contrasts are neutralized in German, learners often overlook them. As Schmitt (2016, p. 114) points out, this is because German does not distinguish final fortis and lenis obstruents, so the final consonant has no effect on the preceding vowel. Consequently, the phonological conditions required for

pre-fortis clipping and pre-lenis lengthening are simply not present in the learners' L1, making these features particularly difficult to acquire.

Building on the discussion of voicing contrasts, a related concept in English phonology is final obstruent agreement (FOA), which requires that adjacent obstruents in final consonant clusters match in voicing (e.g., lived [lɪvd] vs. kicked [kɪkt]) (Schmitt, 2016, p. 114). While this rule primarily concerns inflectional morphology, it further emphasizes the communicative importance of voicing contrasts in English. For German-speaking learners, FOA can be particularly challenging, as they often fail to voice final consonants correctly in the first place. As a result, they may struggle to produce suffixes like *-ed* or *-s* accurately.

Another consistent source of difficulty lies in the production of interdental fricatives /θ/ and /ð/, which are typologically rare and absent from German. Their unfamiliarity contributes to instability in learner speech, with German speakers typically substituting /θ/ with [s] and /ð/ with [z] or [d], resulting in frequent mispronunciations (Schmitt, 2016, p. 97). Additional challenges arise with the voiced fricative /ʒ/ (as in *measure*) and the affricate /dʒ/ (as in *judge*), which Schmitt (2016, p. 114) attributes to the difficulty of accurately producing voiced fricatives in general. In contrast, German learners tend to manage unvoiced affricates and fricatives such as /ʃ/ and /tʃ/ more successfully, as these have direct L1 equivalents (Richter, 2019, p. 133).

Furthermore, confusion between /w/ and /v/ is a recurrent issue. While learners typically have no problem articulating /w/, Schmitt (2016, p. 103) explains that the problem lies in distribution and orthographic mismatch. German learners often expect [v] in English cognates that contain <w> (e.g., *word*, *weather*), as the German <w> corresponds to [v]. Conversely, German <v> often maps to [f], adding to the confusion. Learners may pronounce *wet* and *vet* identically, unaware that GA maintains a strict contrast between these phonemes.

In addition to the general segmental issues discussed above, German-speaking learners of GA must also acquire several pronunciation features that are particularly characteristic of the accent. Among the most prominent are post-vocalic /r/ and dark /l/, both of which differ significantly from their equivalents in German and in other English varieties such as RP. First, rhoticity is a hallmark of GA: unlike RP, GA speakers articulate /r/ in all positions, including post-vocalically and word-finally. For

instance, form is pronounced [fɔːrm] in GA, compared to [fɔːm] in RP (Richter, 2019, p. 134). German-speaking learners often substitute /r/ with regional variants from their L1, such as the uvular fricative [ʁ] or the uvular trill [ʀ] (Schmitt, 2016, p. 181). In addition, Schmitt (2016, p. 133) draws attention to the German phenomenon of vocalic /r/, a syllabic realization that commonly occurs after long vowels or in suffixes such as *-er*. This leads learners to misperceive and misproduce r-colored vowels, pronouncing *sure, beer*, and *bear* as if they were the German *Schur*, *Bier*, and *Bär*, typically with no rhotic element and an overly rounded or fronted vowel. Similarly, GA's use of dark /l/ [ɬ] presents another challenge. While British varieties like RP typically use a clear /l/ before vowels and a dark /l/ in coda position, GA employs the velarized /l/ throughout. German learners, unfamiliar with this articulation, often substitute a clear /l/, which affects the naturalness of words such as milk or ball (Richter, 2019, p. 134).

Another key segmental feature of GA is the flapping of intervocalic /t/. In GA, when /t/ occurs between two vowels and the following syllable is unstressed, it is commonly realized as a tap /t̬/, as in *butter* or *city* (Richter, 2019, p. 134). Schmitt (2016, p. 131) provides a detailed description, explaining that this process also applies across word boundaries (e.g., *about it*) and before syllabic /l/ or /r/ (e.g., *bottle*, *party*). Crucially, although the flap is auditorily similar to [d], it is produced differently: a quick tap of the tongue without a full closure. This nuance is typically unfamiliar to German-speaking learners, who may either overarticulate the /t/ or substitute it with a full [d].

While many of these challenges are common across German-speaking learners, ALs are subject to additional phonological variation due to regional features of Austrian German, such as their realizations of /r/ or differences in aspiration. Table 2 provides a concise overview of GA consonant features that are particularly challenging for ALs.

Table 2. *Challenging GA Consonants for Austrian German Learners*[7]

Consonant Feature	Example words	Common Challenges for ALs
Fortis vs. lenis distinction	eyes, judge, breathe	Final voiced consonants devoiced (e.g., *eyes* vs. *ice*).
/w/ vs. /v/	wet vs. vet	Confusion between /w/ and /v/; incorrect lip positioning.
Dark /l/	ball, milk	Dark /l/ replaced by clear /l/ as in *leaf, life*.
Aspiration of /p, t, k/	pit, tip, kick	Lack of necessary aspiration at beginning of stressed syllables.
/θ/, /ð/	thick, this	Substituted with /s/, /z/, /d/ due to incorrect tongue placement.
/r/	ring, dry, car	Produced as uvular or trilled /r/ (typical of German pronunciation).
Flapped /t/	water, city	Incorrectly produced as fully aspirated /t/ or overcorrected as /d/.

As shown in Table 2, the general pronunciation difficulties outlined above are also evident among ALs of GA. For instance, final obstruent devoicing often leads to the incorrect realization of voiced final consonants, such as *eyes* being pronounced as *ice*. Similarly, the common confusion between /w/ and /v/ results in learners producing *wet* and *vet* identically. ALs also tend to replace dark /l/ with a clear /l/, lack proper aspiration of voiceless plosives at the beginning of stressed syllables, and substitute interdental fricatives with more familiar German sounds like [s], [z], or [d]. In addition, the typical Austrian realizations of /r/, including uvular or trilled variants, conflict with GA's alveolar approximant, and flapped /t/ is frequently overarticulated or replaced with [d].

However, it is noteworthy that certain pronunciation tendencies found specifically in Austrian German may further contribute to the challenges described above. As Richter (2019, p. 136) explains, lenis plosives and fricatives in Austrian German are typically unvoiced, and voiceless plosives in initial position are generally unaspirated. These patterns closely align with many of the segmental features required in GA and may therefore influence how ALs approach them. At the same time, Richter (2019, p. 137) observes that Austrian German, unlike many other southern and central varieties, maintains a clear contrast between /d/ and /t/ in medial position (e.g., *leiden* vs. *leiten*). This phonological distinction may provide ALs with a somewhat stronger basis for

[7] This table draws on the same sources as Table 1, including a booklet from a GA pronunciation course at the University of Vienna and published works by Avery and Ehrlich (1992), Swan and Smith (2001), and Schmitt (2016).

perceiving the contrast between GA flapped /t/ and [d], even though the articulatory realization of the flap remains unfamiliar.

3.2 Suprasegmental Features

Beyond segmental pronunciation, ALs may also encounter challenges related to suprasegmental features such as intonation, stress, weak forms, and linking. While these features are not specific to GA, they are nonetheless important for learners who aim to acquire the accent. The following sections provide a more detailed discussion of these aspects.

3.2.1 Intonation

One of the most salient suprasegmental challenges, especially for ALs of GA, lies in the domain of intonation. While Northern German intonation patterns tend to resemble English more closely, Southern German and Austrian varieties are often characterized by long rising glides in mid-sentence positions (Richter, 2019, p. 135; Swan & Smith, 2001, p. 39). This prosodic pattern, when transferred to English, can lead to unnatural pitch contours, particularly in declarative sentences. A persistent issue involves wh-questions and question tags: German learners often apply rising intonation throughout, including in contexts where English requires falling contours to indicate certainty or assertiveness (Schmitt, 2016, pp. 150–153). As a result, even grammatically correct utterances may be perceived as hesitant, overly polite, or lacking confidence. This impression is often reinforced by what Schmitt (2016, p. 147) describes as “choppy” or overly flat speech rhythm, frequently attributed to German’s so-called *Sägeblattintonation* (sawtooth intonation), where pitch drops sharply between stressed syllables (cf. aslo Richter, 2019, p. 135). Such rhythmic patterns contribute to a perception of German-accented English as abrupt or overly forceful.

The underlying reasons for these intonational difficulties are closely tied to structural and functional differences between the two languages. As Schmitt (2016, pp. 149–150) explains, English assigns a higher functional load to intonation, relying heavily on pitch movement to express focus, emotion, and discourse structure. In contrast, German speakers often use syntactic reordering or modal particles to convey similar pragmatic effects. Moreover, German learners tend to misplace the nucleus, the final stressed syllable that carries the main pitch movement, initiating pitch changes earlier in the sentence than is typical in English (Schmitt, 2016, p. 148). These mismatches

may result in intonational patterns that are unintentionally marked or confusing to native GA listeners. Finally, Schmitt (2016, pp. 150–152) also draws attention to the role of punctuation, noting that German learners may not align intonation and phrasing naturally with written texts, as German punctuation is more syntactically driven, whereas English punctuation more often reflects prosodic phrasing. Taken together, these factors contribute to a prosodic profile that may affect both intelligibility and how the speaker's intentions are interpreted in GA.

3.2.2 Sentence and Word Stress

Although German and English are both stress-timed languages and share comparable sentence stress systems (Avery & Ehrlich, 1992, p. 138), German-speaking learners of GA may still face several challenges related to the realization of stress at both sentence and word level. In both languages, sentence stress typically falls on the most communicatively relevant elements (Schmitt, 2016, p. 137). However, learners often struggle to adjust stress placement based on context. For instance, in a sentence like *John sold the house to the lawyer*, native speakers may emphasize *John*, *sold*, or *the lawyer*, depending on the intended meaning. German learners tend to use more uniform stress patterns, often failing to shift stress to reflect contrast or focus, which may result in speech that sounds flat or pragmatically imprecise (Schmitt, 2016, p. 138). In addition, while the placement of sentence stress may be broadly similar, German learners sometimes lack sufficient pitch modulation to make stressed elements clearly perceptible. English also frequently requires stress shifts within noun phrases to maintain rhythmic balance. For instance, in *a CHInese restaurant*, stress moves to the first syllable of *Chinese* to avoid two adjacent stressed syllables (Schmitt, 2016, pp. 139–140).

At the word level, German learners must contend with the greater variability of English lexical stress, which is shaped by affixation, etymology, and syllable structure (Schmitt, 2016, pp. 138–139). Although German also exhibits stress variability, English places a higher functional load on stress, particularly in distinguishing meaning. Learners often misplace stress in phonemic stress pairs such as *record* vs. *to record*, or in stress-shifting constructions like *a CHInese restaurant*, where stress is adjusted to maintain rhythmic balance (Schmitt, 2016, pp. 138–140). These difficulties are compounded by differences between RP and GA. While RP often stresses

both *address* (noun and verb) on the second syllable, GA distinguishes between *ADdress* (noun) and *adDRESS* (verb) (Schmitt, 2016, p. 138). German learners exposed to British models may therefore produce non-GA stress patterns. Misplaced stress can significantly impair intelligibility: as Brown (cited in Rogerson-Revell, 2011, p. 150) explains, listeners rely on expected stress patterns to identify words. Mispronouncing *follow* as [foˈlaʊ], for instance, may delay recognition and hinder comprehension. Additional difficulties include stress placement in numerals (e.g., *thirteen* vs. *thirty*) and in words with the prefix *un-*, which German learners often stress incorrectly due to L1 transfer (Schmitt, 2016, pp. 144–146).

3.2.3 Weak Forms

Another defining feature of English prosody is its systematic use of weak forms, particularly in function words. These include items such as *and*, *but*, *to*, *of*, *have*, and *were*, which are frequently unstressed and pronounced with a reduced vowel, typically schwa, along with decreased length and pitch (Schmitt, 2016, p. 119). Native English listeners rely heavily on vowel quality, especially centralization, to distinguish stressed from unstressed syllables. As Cutler (2015, p. 118) explains, this distinction plays a crucial role in both word identification and speech segmentation. German-speaking learners of GA often struggle in this regard, as German contains comparatively few weak forms and generally retains fuller vowels in unstressed syllables. As a result, learners tend to pronounce function words with their strong forms even when reduction is expected, producing speech that may sound overly careful or unnatural (Swan & Smith, 2001, p. 39). While this does not necessarily impair intelligibility, it is one of the most noticeable markers of a non-native accent (Schmitt, 2016, p. 121).

This challenge is further amplified by the broader scope of vowel weakening in English. Unlike German, which only reduces <e> in unstressed syllables, English permits centralization of a wide range of vowel phonemes, even in content words (Schmitt, 2016, pp. 120–121). For instance, GA speakers often prefer schwa /ə/ in the initial syllables of words such as *believe*, *beginning*, or *tomorrow*, while German learners tend to retain full vowels or opt for [ɪ] (Schmitt, 2016, p. 120). In addition, reduced vowels in English may be entirely elided, especially before sonorants such as /l/, /r/, /m/, and /n/, as in *bottle* or *station*. German learners may either retain these vowels or

apply assimilation processes typical of German but not of GA (Schmitt, 2016, p. ibid). Learners must therefore extend their limited L1-based weakening patterns to match the more extensive reduction processes of English, both in terms of vowel distribution and phonetic realization. This is particularly relevant for learners receiving instruction based on RP, as GA typically involves an even higher degree of vowel reduction in unstressed syllables.

3.2.4 Features of Connected Speech

One of the most noticeable prosodic differences between English and German concerns the principle of linking. In English, final consonants or vowels are frequently connected to the following word, especially when it begins with a vowel. A simple phrase illustrates the difference:

English (GA): Agnes opens an oven → [ˈægnəs‿ˈoʊpənz‿ən‿ˈʌvən]

German: Agnes öffnet einen Ofen → [ˈagnɛs ˈʔœfnɛt ˈʔaɪnən ˈʔoːfn̩]

According to Jakobson (1971, p. 526), languages universally prefer syllables to begin with consonants (CV structures). English speakers link words fluidly, thereby avoiding interruptions through linking strategies, as illustrated in the example above. In contrast, German speakers tend to preserve clear word boundaries, often inserting a glottal stop [ʔ] before vowel-initial syllables (Kufner, 1971, as cited in Richter, 2019, p. 135). This tendency to articulate each word separately is common among language learners and, as Celce-Murcia et al. (2010, p. 174) note, often results in choppy and unnatural-sounding speech. Therefore, this contrast poses a key challenge for German-speaking learners of GA, who often fail to blend words across syllable boundaries in a prosodically natural way.

In addition to consonant-vowel linking, English also employs vowel-vowel linking strategies to avoid hiatus, typically through the insertion of a glide such as [j] or [w], depending on the final vowel of the first word. Consider the following examples:

[j]-linking: *He asked* → [hiː‿ˈjæskt]

[w]-linking: *You are* → [juː‿wɑːr]

Overall, this chapter has outlined a wide range of segmental and suprasegmental pronunciation challenges encountered by German-speaking learners of GA. Segmental difficulties include the articulation of unfamiliar vowels and consonants, as

well as challenges related to voicing, aspiration, and GA-specific features such as rhotic /r/, dark /l/, and flapped /t/. At the suprasegmental level, issues arise with intonation, stress placement, weak forms, and linking. These pronunciation patterns are further influenced by characteristics of Austrian German, which may either reinforce or complicate specific aspects of GA acquisition.

4 Pronunciation Instruction at the University of Vienna

The preceding chapters established the theoretical foundations of pronunciation instruction and examined the specific challenges faced by ALs aiming to approximate the GA accent. This chapter now turns to the institutional context in which the present study is situated. While EPI is often marginalized in European university curricula (cf. Henderson et al., 2015, p. 5), similar tendencies can be observed in Austria, where pronunciation is frequently treated as an optional component or addressed only within broader speaking courses. The University of Vienna, however, takes a distinctly different approach. In fact, the Department of English and American Studies has implemented a compulsory and clearly structured pronunciation program, structured around the course Practical Phonetics and Oral Communication Skills 1 (PPOCS 1) and its accompanying language lab, that places strong emphasis on both segmental and suprasegmental development and explicitly supports learners in approximating a consistent target variety. The following sections provide a detailed overview of PPOCS 1 and its accompanying language lab.

4.1 Practical Phonetics and Oral Communication Skills 1

PPOCS 1 is a core course within the ELC program and is typically taken in the fourth semester (Richter, 2021, p. 89). The course is designed to help students become confident and proficient users of spoken English in both productive and interactive contexts. Furthermore, it aims to support learners in achieving a consistent, intelligible pronunciation model while developing fluency across various social and stylistic contexts (Richter, 2021, pp. 89–90).

Prior to course enrolment, students are required to choose either GA or BE as their target accent. The choice is typically based on personal identification or alignment with students' existing pronunciation. In cases where learners have acquired alternative regional accents through international experience, such as Scottish or Australian

English, tutors and lecturers support their decision to either maintain that variety or shift toward GA or BE (Schwarz et al., 2021, pp. 105–106).

PPOCS 1 focuses on both segmental features, such as vowels and consonants, and suprasegmental aspects, including intonation, stress, and rhythm. The course follows a clearly structured model of EPI that integrates theoretical explanation with targeted practice from the outset. Each 90-minute weekly session is organized into three phases: students are first exposed to the target features in communicative contexts, then practice them through form-focused activities, and finally consolidate their understanding through theoretical explanation. The syllabus places particular emphasis on features that are known to pose difficulties for Austrian German speakers, ensuring that instruction is not only explicit and systematic but also tailored to learners' specific phonological needs. Segmental and suprasegmental features are introduced together, based on the understanding that both levels are essential for achieving intelligibility and should be integrated from the beginning of instruction (Richter, 2021, p. 92). This approach reflects the growing consensus in pronunciation research that neither segmentals nor prosody alone can ensure comprehensible speech, and that both should be taught in parallel to support effective spoken communication (see Chapter 2.4.2).

Beyond the weekly sessions, learners are also supported through autonomous learning tools, most notably the PPOCSfolio. This course booklet, compiled throughout the semester, is divided into a reference section and a practice section. While the first part provides theoretical material and background on their chosen variety, the second part features applied tasks, reflection questions, and a weekly progress diary to foster metacognitive awareness and self-monitoring (Richter, 2021, p. 92). Hence, the PPOCSfolio prompts learners to engage more actively with their pronunciation learning and to integrate theoretical knowledge with practical application throughout the semester.

In order to assess students' performance, PPOCS 1 includes a theory component (30%) and an oral examination (70%). The theory exam is administered during the semester and requires students to apply their phonetic knowledge to a range of tasks, such as identifying individual sounds or stress patterns in a short text and answering theoretical questions on phonetics. The oral exam takes place at the end of the semester and consists of three parts: a prepared reading passage, a short talk, and

free speech. It is conducted asynchronously, with students recording their performance and uploading it to their respective PPOCS 1 learning platform. Assessment focuses on students' control of both segmental and suprasegmental features, as well as their ability to speak naturally and appropriately across different communicative tasks (Richter, 2021, p. 94). Clearly, PPOCS 1 lays the groundwork for developing intelligibility, fluency, and overall communicative competence**.**

4.2 The Language Lab

Designed to complement the instruction offered in PPOCS 1, the language lab provides students with additional opportunities to reinforce newly acquired pronunciation features through applied, communicative tasks. It follows a communicative and constructivist approach that encourages learners to actively apply their knowledge in both individual and collaborative settings (Schwarz et al., 2021, p. 105).

The language lab follows the same weekly schedule as PPOCS 1, with sessions lasting 90 minutes. The sessions are held in designated classrooms where each student has access to their own computer and headset. Moreover, group sizes are limited to a maximum of 18 students. Sessions are led by trained student tutors, who are advanced-level students selected based on their academic performance in PPOCS 1 and their suitability for the role, as determined through an interview process. While tutors do not formally assess students' performance, they work closely with PPOCS 1 lecturers to monitor progress and adjust instruction based on individual learning needs (Schwarz et al., 2021, p. 106).

Pronunciation practice in the language lab is structured around a specially designed lab booklet consisting of 12 lessons. Each session includes a core section, a review, and additional exercises. During the sessions, students work through these tasks using audio recordings that guide them through the materials. They are encouraged to listen back to their own recordings and compare their production with that of model speakers, which supports the development of self-monitoring and self-correction strategies (Schwarz et al., 2021, p.107). The remaining time of each session is typically used for focused feedback and free speech activities. Feedback is given individually or in pairs and is tailored to each student's specific pronunciation needs.

In addition to in-class guidance, tutors provide supplementary materials on the course's Moodle page to further encourage students to practice independently. These include theory-based tasks, mock exams, instructional videos on segmental and suprasegmental features, and strategies for identifying and addressing individual pronunciation difficulties. Moreover, students have the opportunity to participate in optional tutorial sessions, organized by tutors and funded by student representatives, which are offered several times throughout the semester (Schwarz et al., 2021, p. 108). These informal sessions offer additional opportunities to improve fluency and confidence through spontaneous activities such as role plays. Taken together, these resources promote learner autonomy and help create a supportive, low-pressure environment in which students can refine their pronunciation skills (Schwarz et al., 2021, pp. 108–109).

Overall, the University of Vienna's approach to pronunciation instruction reflects a clear and systematic commitment to developing students' segmental and suprasegmental competence. Through the combination of structured theoretical instruction in PPOCS 1 and practical application in the language lab, students receive consistent support in refining their spoken English.

5 Investigating the Effects of Explicit Pronunciation Instruction at the University of Vienna

Building on the theoretical foundation established in the previous chapters, the following chapter presents the empirical investigation at the core of this thesis. First, the rationale for the study is outlined, followed by the presentation of the research questions. The chapter then continues with a detailed description of the research design and methodology. Subsequently, the analysis of the collected data is presented and discussed in relation to previous research. Finally, the chapter brings attention to the study's limitations and outlines potential directions for further research.

5.1 Study Purpose and Research Questions

This study is not only grounded in existing research but also emerged from my own professional and research experiences. Having worked as a pronunciation tutor in the language lab for almost four years, I was prompted to reflect critically on how effective EPI is in promoting measurable improvement. To explore this question, I collaborated

with other pronunciation tutors on a research project that examined whether EPI helped students improve selected segmental features in BE and GA. The results indicated measurable improvement in the targeted features over the course of the semester. In a different context, I conducted an action research project during a practicum at an AHS in Vienna, where I explicitly taught interdental fricatives to a group of lower secondary students. Even at an A2+ proficiency level, the findings suggested that EPI led to noticeable gains in students' pronunciation skills. Together, these experiences sparked my interest in investigating pronunciation development in a more systematic way, particularly in relation to Austrian EFL university students with German as their first language and their efforts to approximate the GA accent.

Building on these observations, a review of the existing literature on EPI and pronunciation acquisition reveals that while numerous studies have demonstrated the benefits of EPI across diverse learner populations and instructional contexts (see Chapter 2.3), several important gaps remain. First, comparatively little research has focused on learners with German as their first language, especially ALs, at the tertiary level. Although it is well established that German-speaking learners face persistent difficulties with specific segmental and suprasegmental features of English (see Chapter 3), there is a notable lack of empirical studies investigating how EPI can support this group in overcoming these challenges. Moreover, research examining the role of EPI in helping learners approximate a specific target accent remains limited, particularly in relation to GA. This is an important omission, as a growing number of EFL learners, especially at the university level, report a preference for GA over other model accents (see Chapter 2.5.3).

Furthermore, little is known about how EPI shapes learners' perceptions, not only of the instruction itself but also of their own accent, pronunciation confidence, challenges, motivation, and sense of goal achievement. While existing research suggests that students generally value EPI and express a desire for more structured pronunciation instruction (see Chapter 2.3.1), there is a gap in studies examining how these perceptions evolve over a period of receiving EPI. The present study seeks to address these gaps by investigating both pronunciation development and changes in learner perception among Austrian EFL university students with German as their first language, following one semester of EPI.

Drawing on the theoretical framework outlined in the literature review and the research gaps identified above, this study addresses the following research questions:

1. How does EPI affect L1 German EFL university students' pronunciation of specific segmental features in GA English over the course of one semester?
2. How does EPI affect L1 German EFL university students' pronunciation of specific suprasegmental features over the course of one semester?
3. How do L1 German EFL university students' perceptions of the effectiveness of EPI and their own pronunciation (e.g., self-perceived accent, confidence, challenges, and goals) change over the course of one semester?

By addressing these questions, this study aims to provide a more comprehensive understanding of the role of EPI in helping Austrian EFL university students with German as their first language improve their pronunciation and approximate the GA accent. Additionally, by examining how these learners' perceptions, both of the instruction itself and of their own accent identity, confidence, challenges, and goal orientation, change over the period of receiving EPI, the study offers deeper insight into how students experience and respond to pronunciation instruction in a tertiary EFL context. Understanding these perspectives is essential for evaluating the effectiveness of EPI, identifying feature-specific and learner-specific challenges, and refining teaching approaches to better support students in working toward their individual pronunciation goals.

5.2 Methodology

Having established the research questions along with their rationale and significance, the following sections outline the study's research design. Specifically, the participants and study setting are described, the instruments employed are detailed, and the methods used for data collection and analysis are explained.

5.2.1 Research Design

The present study employs a short-term longitudinal panel design, with data collected at two distinct time points. Given its duration of approximately twelve weeks, it meets the criteria for a short-term longitudinal approach (Cohen & Louis, 2011, p. 266). Since data is collected from the same participants at both time points, it also qualifies as a panel design (Cohen & Louis, 2011, pp. 267–268). This design is particularly useful

for analyzing developmental changes as it provides a detailed view of progress and trends within a consistent sample. As Dörnyei (2007, p. 81) emphasizes, language learning occurs incrementally, making a longitudinal perspective essential for understanding many aspects of foreign language acquisition. Moreover, panel studies offer a strong non-experimental method for examining developmental patterns without requiring a control group (Dörnyei, 2007, p. 83). In this study, this approach provides a structured framework for analyzing pronunciation development and shifts in students' perceptions of their accents and the effectiveness of EPI. Tracking the same participants ensures that observed changes result from instructional influence rather than individual differences.

In order to address the underlying research questions, this study employs a mixed-methods approach that combines both quantitative and qualitative data. Specifically, online questionnaires were administered to capture changes in students' perceptions of their own pronunciation and the effectiveness of EPI, while audio recordings were collected to assess their pronunciation development following instruction. This combination allows for a more comprehensive analysis, as mixed methods research enhances the depth of findings by integrating statistical trends with qualitative insights (Dörnyei, 2007, p. 45).

Online questionnaires were chosen for their practicality and efficiency in attitudinal research, especially for tracking changes in beliefs, opinions, and perceptions over time (Dörnyei & Dewaele, 2022, p. 6). They allow for structured data collection across multiple time points, making them well-suited for this study (Cohen et al., 2011, p. 137). Moreover, compared to methods like interviews, questionnaires are more efficient for collecting data from larger groups while also reducing interviewer bias, ensuring consistency and reliability in responses (Dörnyei & Dewaele, 2022, p. 7).

Despite these advantages, questionnaires have certain limitations, such as the risk of misinterpretation, time constraints, or social desirability bias (Dörnyei & Dewaele, 2022, p. 9). To address these concerns, the questionnaires were designed to be concise, clear, and easy to understand, allowing participants to provide accurate and meaningful responses. Additionally, before implementation, they were reviewed by my thesis supervisor and an experienced pronunciation tutor to ensure clarity, comprehensibility, and alignment with research objectives (Dörnyei & Dewaele, 2022, p. 44)

To assess actual pronunciation development, the study employed a structured approach using recorded speech samples. Participants completed a controlled reading task, which involved reading a diagnostic passage designed to provide consistent conditions across speakers. This method is widely used in pronunciation research due to its reliability and adaptability (Schmitt, 2016, p. 196). As Darcy and Rocca (2022, p. 329) note, “improvements are most noticeable when the outcome tasks are controlled (e.g., sentence or paragraph reading tasks) […]”. A key advantage of this approach is that it allows pronunciation to be evaluated independently of grammar or vocabulary use, enabling listener-judges to focus exclusively on phonological features (Derwing & Munro, 2015, p. 88). Consequently, this method supports consistent assessment of both segmental and suprasegmental features while minimizing the influence of external linguistic variables.

Despite these advantages, there are also some disadvantages that need to be considered. For instance, this method only captures one speech style, namely, reading aloud, and does not account for spontaneous production (Schmitt, 2016, pp. 196–197). Additionally, the artificial nature of reading tasks may limit generalizability to real-world speaking contexts, as they do not require learners to construct sentences and retrieve lexical items in real time, leading to speech that may differ from spontaneous communication (Derwing & Munro, 2015, p. 88; Levis & Barriuso, 2012, p. 188).To address these limitations, it is recommended to include spontaneous speech tasks (cf. Schmitt, 2016, pp. 196–197). However, given the scope of this study, only a diagnostic reading passage was used to prioritize comparability and controlled measurement.

To systematically track pronunciation development, students read the same passage twice, once before and once after EPI, with recordings collected at both testing points. This pre- and post-instruction design follows the recommendation of Celce-Murcia et al. (2010, p. 314), who emphasize that using an identical passage ensures consistency in measuring pronunciation progress. Furthermore, Hua (2023, pp. 6–7) highlights that structured recordings help control external factors that could otherwise influence results. Hence, by minimizing task differences, this method ensures that observed pronunciation changes can be attributed more confidently to EPI rather than to unrelated variables. Overall, this design allows for a detailed examination of participants’ perceptions and pronunciation development while remaining feasible within the study’s scope.

In order to fully understand the findings, it is essential to consider the participants and the setting in which the research was conducted. Therefore, the following section will provide an overview of these key aspects.

5.2.2 Participants and Setting

This study was conducted at the Department of English and American Studies at the University of Vienna and included Bachelor of Education (BEd) and Bachelor of Arts (BA) students enrolled in the PPOCS1 course and its accompanying language lab, specifically those who had chosen GA as their target variety. To ensure a consistent participant profile, selection criteria were applied regarding linguistic background, course repetition, and data completion.

Initially, 34 students participated. Of these, 26 (76.5%) reported German as their first language (L1), while the remaining eight (23.5%) had diverse linguistic backgrounds, including Hungarian, Polish, Romanian, Russian, Turkish, and Ukrainian. Despite these varied L1s, all participants were proficient in German. However, to maintain a homogeneous linguistic background, only L1 German speakers were included in the final analysis.

In addition to meeting the language background criteria, participants were required to complete both questionnaires and submit both recordings. To ensure dataset consistency, only those who completed both components were included in the final analysis. Initially, 23 students met these criteria; however, three were excluded because they were repeating the course, having previously failed it. These students had prior exposure to the course content and assessment format, which may have influenced their responses and skewed the results. Consequently, the final sample consisted of 20 participants, all of whom were BEd students aged between 19 and 25.

In terms of gender distribution, the majority were female (n = 17, 85%), while male participants (n = 3, 15%) made up the remainder. No participants identified as non-binary or selected another gender identity, nor did anyone choose the "prefer not to say" option. This gender distribution reflects broader trends in Austrian teacher training programs, where women constitute the majority of future educators. Approximately 77% of students in teacher education programs are women (cf. Statistik Austria 2023).

5.2.3 Instruments

Having outlined the participants and the setting in which the study was conducted, this section introduces the instruments used for data collection. This study utilized two instruments: online questionnaires and students' recorded speech samples, both of which were administered at two different time points. A pre-instruction questionnaire (Q1) and recording were collected at the beginning of the semester (T1), followed by a post-instruction questionnaire (Q2) and recording at the end of the semester (T2), after students had received EPI. For a more detailed timeline and the specific time points of data collection, see Chapter 5.2.4.

The online questionnaires were used to examine whether students' perceptions of the effectiveness of EPI, as well as their views on their own pronunciation, such as their accent, confidence, challenges, and goals, changed over the course of the semester. Both followed an identical two-part structure, consisting of nineteen questions designed to collect both quantitative and qualitative data. Q1 served as a baseline measure, while Q2 allowed for a direct comparison after instruction. To ensure clarity and efficiency, both were designed to take no more than five minutes to complete, minimizing participant burden while maintaining high data quality (Dörnyei & Dewaele, 2022, p. 15).

The first section of Q1 collected demographic and linguistic background information, including students' age, gender, degree program, and first language(s). Additionally, it inquired whether students had previously taken the course. The second section examined students' pronunciation self-perceptions, asking them to categorize their English accent (e.g., clearly American, rather American, clearly British, rather British, rather Austrian, a mix of accents, or other) and to rate their pronunciation confidence on a five-point Likert scale from 'not confident at all' (1) to 'very confident' (5). Furthermore, students identified their pronunciation goals (e.g., achieving a native-like accent, improving clarity, enhancing fluency) and the aspects they found most challenging, such as vowel sounds, consonants, stress patterns, intonation, or linking in connected speech. Optional open-ended questions allowed participants to elaborate on the aforementioned topics if their responses were not covered by the predefined options. Lastly, students rated their level of agreement with the statement that EPI would lead to improvements in their pronunciation skills, using a five-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (5).

Q2 followed the same structure as Q1 but focused on students' reflections on their pronunciation progress and their evaluation of EPI. While the demographic section was reduced to a single question (students' names to ensure data matching after collection) the remaining items revisited accent perception, confidence levels, and goal attainment. Regarding their pronunciation goals, students were given pre-defined goals and were asked whether they had achieved them, rating their degree of goal attainment on a four-point Likert scale from 'not at all' (1) to 'fully' (4). They were also asked whether they had achieved any additional personal goals beyond those originally listed. Additionally, students indicated their overall satisfaction with their English pronunciation after taking the course, selecting from 'Happier than before', 'About the same as before', or 'Less happy than before'. Furthermore, they reflected on whether they believed their pronunciation had improved and which aspects remained challenging. The statement regarding the effectiveness of EPI was repeated from the pre-instruction questionnaire to allow for direct comparison. In order to obtain even more specific information regarding the effectiveness of EPI, students were asked to identify which aspects of the course they found most beneficial for improving their pronunciation. More specifically, they were required to select from options such as practicing with audio files, receiving oral feedback, or receiving theoretical input. Furthermore, they rated their motivation to continue practicing pronunciation after completing the course on a four-point Likert scale from 'not motivated at all' (1) to 'very motivated' (4). As in the pre-instruction questionnaire, open-ended questions were included to encourage participants to provide detailed information on their learning experience and the effectiveness of EPI. The full versions of both questionnaires can be found in the appendix.

To complement the self-reported data from the questionnaires, students' pronunciation development was examined through recorded readings of a diagnostic text. At both time points, participants recorded themselves reading the same adapted version of *Little Red Riding Hood*, a 259-word passage that was specifically modified to fit the study's research objectives. The text was adjusted in length and complexity to ensure that it provided enough material for pronunciation assessment while still being manageable for all participants. It was further adapted to include multiple instances of all segmental features examined in this study, namely /æ/, /ɑː/, /oʊ/, postvocalic /r/, and flapped /t/ - all of which were selected based on their documented

difficulty for L1 German learners of English, as discussed in Chapter 3. While modifications were necessary to ensure sufficient instances of these segmental features, no changes were needed for suprasegmental aspects such as intonation patterns, stress contrasts, and linking, as these were already naturally present in the passage. All modifications were applied while maintaining natural flow and grammatical accuracy to ensure reliable phonetic data (Schmitt, 2016, p. 196). Table 3 provides an overview of the frequency of segmental features in the passage, illustrating their distribution across the text.

Table 3. *Frequency of Selected Segmental Features in the Reading Passage*

Selected segmentals	Total number of tokens
/æ/ (e.g. basket, fast, grandmother)	18
/ɑː/ (e.g. not, cottage, knocked)	18
/oʊ/ (e.g. cloak, old, going)	8
pvr (e.g. door, answered, woodcutters)	33
/t̬/ (e.g. better, little, cottage)	18

As demonstrated in Table 3, the distribution of segmental features varies, with postvocalic /r/ appearing most frequently (33 tokens), while the diphthong /oʊ/ is the least represented (8 tokens). This variation reflects the natural linguistic structure of the passage while ensuring that each feature appears multiple times for reliable assessment.

Collectively, the questionnaires and the audio recordings offer insights into both students' perceptions of their pronunciation and the effectiveness of EPI, as well as measurable changes in their pronunciation. In order to provide a better understanding of the data collection process, the next section outlines when and how these instruments were administered.

5.2.4 Data Collection

Data collection was conducted during tutorial sessions in the language laboratory at the University of Vienna. Prior to data collection, participants were briefed on the study's purpose and procedures. They were informed that their participation was voluntary, with the option to withdraw at any time without consequence (Cohen et al., 2011, p. 80). To ensure confidentiality, all data was handled anonymously.

Additionally, participants could ask questions before providing informed consent, confirming that their data could be used for research purposes.

Once consent was obtained, data was collected at two predefined points: in March 2024 (T1) at the beginning and in June 2024 (T2) at the end of the semester. At both time points, participants completed a short questionnaire and recorded the reading passage. To ensure consistency, all study materials, including the questionnaires and instructions for the recordings, were provided via the Moodle course for the tutorial, which all participants had access to. To provide a clear overview of the study's timeline and data collection process, Figure 1 presents a visual representation of the sequencing of these events.

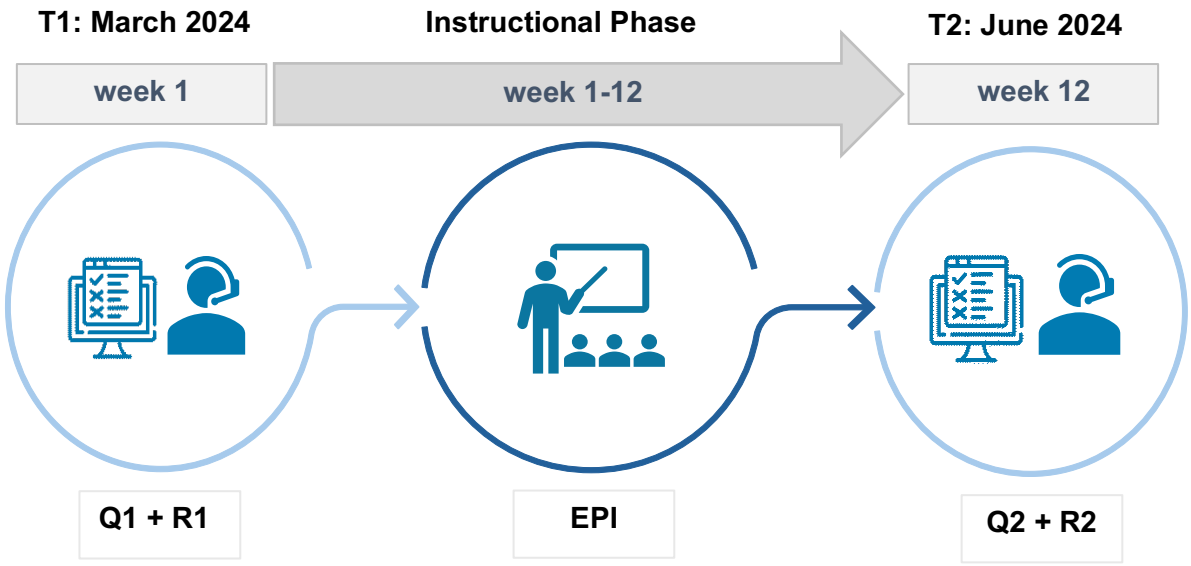

Figure 1. *Overview of Study Design*

As illustrated in Figure 1, data collection took place during the first (T1) and final week (T2) of the semester. At T1, participants completed the pre-instruction questionnaire (Q1) and recorded their first speech sample (R1). This was followed by a 12-week instructional phase, during which participants received EPI. At T2, participants repeated the procedure by completing the post-instruction questionnaire (Q2) and a second recording (R2).

The questionnaires were administered digitally via Google Forms, which participants accessed via the Moodle course. The method was chosen because it was both straightforward and reliable, and ensured that all participants completed the questionnaire under the same conditions. Additionally, participants recorded their speech samples individually using assigned computers and headsets to guarantee

consistent recording quality. All recordings were submitted via Moodle, resulting in 40 speech samples (N = 20 participants × 2 time points). Likewise, 40 questionnaires were collected - 20 at the first time point (T1) and 20 at the second (T2). Altogether, the collected data provided a solid foundation for subsequent analysis.

5.2.5 Data Analysis

Having outlined the data collection procedures, the following section describes how the collected data were analyzed. As previously mentioned, the questionnaire contained both closed and open-ended questions; hence, both quantitative and qualitative analyses were conducted. The closed questions were analyzed quantitatively in Excel using descriptive statistics. Responses obtained from the open-ended questions were analyzed qualitatively by grouping them into thematic categories.

In addition to the questionnaire data, the participants' recordings were analyzed using rating scales that were developed explicitly for this study. Scores derived from these assessments were transferred to Excel for statistical analysis, allowing for clear comparisons between pre- and post-instruction performance. Given their study-specific design, the following paragraphs provide a detailed explanation of the rating scales' rationale and structure.

To justify the design choices made in developing these scales, it is important to consider key issues in pronunciation assessment research. Human-rated pronunciation assessment typically relies on structured rating scales, where trained raters evaluate speech samples based on predefined criteria (Isaacs & Thomson, 2013, p. 136). However, scholars have long pointed to persistent challenges regarding the reliability, validity, and usability of such scales. These include vague descriptors, overlapping constructs, and insufficient differentiation across proficiency levels (cf. Derwing & Munro, 2015; Harding, 2017; Isaacs & Trofimovich, 2017; Zhong, 2019). Even widely used frameworks such as the CEFR have been criticized for contributing to inconsistent evaluations due to ambiguous descriptors and limited guidance on how to assess pronunciation (Harding, 2017, pp. 21–22). Consistency becomes especially problematic when segmental and suprasegmental aspects of pronunciation are not clearly operationalized or separated within assessment tools. Zhong (2019, pp. 144–145) further highlights the issue of vague descriptors and inconsistent use of

pronunciation scales, which are often overlooked within broader speaking assessments. Hence, for the purpose of this study, more clearly defined rating scales were required.

To address this need, analytic rating scales were developed to produce results that are transparent, feature-specific, and easily comparable. Given the inherent differences between segmental and suprasegmental features, two distinct types of scales were designed, one for each dimension, both directly aligned with the research focus. For the segmental features, a series of five-point Likert-type rating scales was created, with a separate version for each target sound under investigation. This included /æ/, /ɑː/, flapped /t/, /oʊ/, and post-vocalic /r/. While all segmental scales followed the same overall structure, the descriptors were adjusted according to the number of tokens available for each sound to ensure consistent interpretation across features. Table 4 presents one of these rating scales, using the vowel /æ/ as an example.

Table 4. *Example Rating Scale Segmental Features*

/æ/ (18 tokens)		
Level	**Approximated tokens**	**Percentage (%)**
Not approximated target variety (1)	[0-4]	0-25
Slightly approximated target variety (2)	[5-8]	26-49
Moderately approximated target variety (3)	[9-12]	50-69
Mostly approximated target variety (4)	[13-16]	70-93
Fully approximated target variety (5)	[17-18]	94-100

As depicted in Table 4, the scale categorizes accuracy into five levels, ranging from ‘not approximated target variety’ (1) to ‘fully approximated target variety’ (5). Each level corresponds to a percentage range derived from the total number of target tokens. For instance, participants who produced 0-4 accurate realizations of /æ/ (0–25%) were classified as ‘not approximated target variety’, while those with 17-18 correct tokens (94–100%) were rated as ‘fully approximated target variety’. Although the number of tokens varied across target sounds (e.g., /oʊ/ had eight tokens; post-vocalic /r/ had 32), the overall design of the scale remained consistent. Non-linear percentage thresholds were applied to reflect meaningful distinctions in pronunciation accuracy.

More specifically, narrower intervals at lower levels allowed for the detection of incremental improvements, while broader intervals at higher levels emphasized near-native precision. This design ensured consistent interpretation across sounds while accounting for variation in token frequency.

Unlike segmental accuracy, which was quantitatively measured through token counts, suprasegmental features required a more interpretive approach due to their communicative and context-dependent nature. Since participants recorded themselves reading a diagnostic passage, judgments focused on how naturally and appropriately suprasegmental features were produced in a controlled context. To provide a clearer understanding of the evaluation criteria, Table 5 presents the full suprasegmental rating scale.

Table 5. *Rating Scale Suprasegmental Features*

Feature	1 - Not demonstrated	2 - Partially demonstrated	3 - Fully demonstrated
Intonation	Reading lacks pitch variation across the sentence, sounding flat or unnatural, and failing to reflect discourse functions such as questioning or emphasis.	Some variation in intonation is present, but inconsistencies occasionally affect clarity and naturalness.	Pitch variation is appropriate and expressive, reflecting discourse functions (e.g., statements, questions, emphasis) and aligning with sentence-level meaning.
Sentence Stress	Stress placement is unclear or unnatural, making reading sound monotonous.	Stress is mostly appropriate, but occasional inconsistencies affect emphasis and naturalness.	Stress is well-placed on key content words, supporting sentence structure and aiding clarity.
Linking	Reading is disconnected, with words pronounced separately and unnatural pauses disrupting natural flow.	Some linking occurs, but inconsistencies or unnatural breaks affect smoothness.	Linking, including assimilation and elision where appropriate, is well-integrated, contributing to natural and continuous reading.
Weak Forms	Function words are fully articulated, making reading sound overly careful and unnatural.	Some weak forms are used, but inconsistencies make reading sound less fluid.	Weak forms are applied appropriately and consistently, supporting natural pronunciation.

As presented in Table 5, an analytic three-point Likert-type structure was used to allow for statistical comparison while still capturing performance quality. The scale ranged from ‘not demonstrated’ (1) to ‘fully demonstrated’ (3), with each level accompanied

by qualitative descriptors. This allowed the rater to assess performance across four suprasegmental domains: intonation, sentence stress, linking, and weak forms. Intonation was evaluated based on the speaker's use of pitch variation across the utterance to reflect communicative meaning, such as rising contours for questions or final falls for statements, whereas sentence stress referred to the placement of emphasis on key content words to support structure and meaning. For instance, 'not demonstrated' intonation was characterized by flat, monotonous pitch that failed to signal discourse intent, while weak sentence stress involved misplaced or overly uniform emphasis that disrupted the natural rhythm of the sentence. In contrast, 'fully demonstrated' performance in both categories featured appropriate pitch movement and clearly marked prominence, enhancing both clarity and prosodic naturalness. Similarly, linking ranged from disjointed, word-by-word reading to smooth, connected speech that included assimilation and elision. Lastly, weak forms were evaluated based on how naturally and appropriately they were produced within the reading task. By providing concrete descriptors for each level, the scale supported consistent interpretation of performance and helped avoid the ambiguity often associated with broader, less detailed frameworks.

All ratings were conducted by the researcher, who can be considered a trained listener. This qualification is based on approximately three and a half years of experience working as a GA pronunciation tutor at the University of Vienna. At the time of the rating, the researcher was actively engaged in this role, regularly providing targeted feedback on spoken English to a diverse group of EFL university students. This ongoing experience has led to a high level of familiarity with typical learner challenges and recurring pronunciation patterns.

Given the use of a single rater, a high degree of intra-rater responsibility was required to ensure objectivity and reliability throughout the rating process. Accordingly, each recording, both pre- and post-instruction, was listened to and rated twice, with the second round conducted one week later in a different, randomized order. In cases where discrepancies emerged between the two ratings, the recordings were reviewed again to make a final informed judgment. This repeated and reflective evaluation process, combined with the use of clearly defined rating criteria, helped reduce interpretive ambiguity and mitigate potential rater bias.

Following the rating process, all results were systematically recorded in Excel to facilitate clear comparisons between pre- and post-instruction performance. Descriptive statistics were calculated to capture patterns of development across both segmental and suprasegmental features. These procedures ensured a structured and transparent analysis process, forming the basis for the results presented in the following section, which outlines key findings from both the recordings and the questionnaires.

5.3 Results and Discussion

Having outlined the study's rationale, research questions, and methodological approach in the preceding chapters, this chapter presents a comprehensive analysis and interpretation of the data collected for the present study. As described in Chapter 5.2.3, the analysis draws on two primary data sources: questionnaire responses and ratings of students' recorded speech samples, collected at T1 (beginning of the semester) and T2 (end of the semester). To ensure clarity and consistency, the terms T1 and T2 are used throughout this chapter to refer to these data collection points.

The analysis is organized into three subsections, each addressing a distinct area of investigation: segmental features, suprasegmental features, and students' perceptions of their pronunciation and EPI. Given the specific focus of the research questions on these three areas of investigation, this chapter adopts an integrated approach where results, interpretation, and discussion are presented together within each subsection. This structure facilitates a detailed examination of each area and allows for direct comparisons with findings from previous empirical studies. By relating the results to existing research, this chapter aims to identify patterns, highlight contrasts, and contribute to the broader understanding of EPI in advanced EFL contexts, particularly within the Austrian university setting.

5.3.1 Segmental Features

To address the first research question, which investigates the development of specific segmental features in students' pronunciation following EPI, the primary data source consisted of rated audio recordings. As outlined in Chapter 2.2.3, all participants (N = 20) recorded themselves reading an adapted version of *Little Red Riding Hood* at T1 and T2. These recordings were then evaluated by the researcher, an experienced

listener with several years of experience in pronunciation teaching. The assessments were based on five-point Likert-type rating scales, ranging from 'not approximated target variety' (1) to 'fully approximated target variety' (5), introduced in Chapter 2.2.5. The resulting descriptive statistics revealed notable patterns in students' segmental pronunciation development over the semester, described in detail in the following sections.

In order to provide an initial overview of these patterns, Figure 2 presents the total scores for each target segmental feature (/æ/, /ɑː/, /oʊ/, /t̬/, and post-vocalic /r/) across all participants at T1 and T2. This comparison serves as the basis for the more detailed analysis presented in the sections that follow.

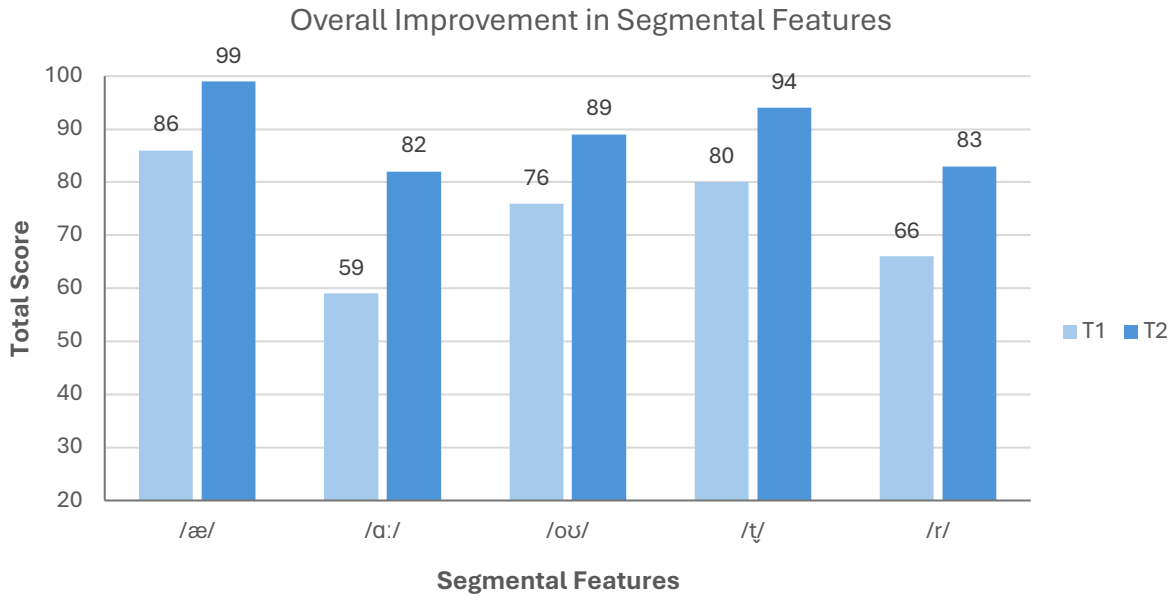

Figure 2. *Total Scores for Segmental Features at T1 and T2*

As illustrated in Figure 2, scores at T1 consistently exceeded scores at T2 across all five segmental features. While all sounds demonstrated improvement, the extent of progress varied. Notably, the most pronounced gains were observed for /ɑː/ and post-vocalic /r/, both of which showed substantial increases in total score from T1 to T2. Although progress was less pronounced for /æ/, /oʊ/, and flapped /t/, these sounds still exhibited measurable improvement.

These overall findings provide support for the effectiveness of EPI in improving segmental accuracy among adult EFL learners. The consistent gains across all five segmental features, particularly for those sounds that were least accurately produced

at the beginning of the semester, echo a broad body of research demonstrating the benefits of EPI at the tertiary level. Studies across diverse learner populations have shown that explicit, form-focused instruction leads to measurable improvements in the production of individual phonemes (e.g., Alghazo et al., 2023, pp. 7–8; Saito, 2011, p. 54; Saito & Lyster, 2012, p. 624; Yakut, 2020, pp. 109–110). Taken together, these findings reinforce the widely supported view that EPI is a highly effective tool for supporting pronunciation development in higher education settings.

While Figure 2 visualizes general trends, a more detailed, phoneme-specific analysis is necessary to capture patterns that may not be evident from the aggregate scores alone. Therefore, the following sections examine each segmental feature individually and discuss specific areas of improvement as well as potential reasons for these developments. A summary of the statistical development across all five segmental features is provided in Table 6 below.

Table 6. *Statistical Summary of Segmental Ratings*

Segmental Feature	Total Score T1	Mean Score T1 (SD)	Total Score T2	Mean Score T2 (SD)	Score Increase	% Increase
/æ/	86	4.3 (0.6)	99	4.9 (0.2)	+13	15.1%
/ɑː/	61	3.0 (0.8)	85	4.2 (0.7)	+24	39.3%
/oʊ/	79	3.9 (0.9)	91	4.5 (0.7)	+12	15.2%
/t̬/	81	4.0 (0.9)	95	4.7 (0.4)	+14	17.3%
/r/	62	3.1 (1.1)	81	4.0 (1.1)	+19	30.6%

As presented in Table 6, the trend of improvement across all five segmental features following EPI is evident, although the extent of progress varied considerably. The total score for /æ/ increased from 86 ($\bar{x}$ = 4.3, SD = 0.6) at T1 to 99 ($\bar{x}$ = 4.9, SD = 0.2) at T2, resulting in a 15.1% gain. This high mean score at T1, combined with the minimal variation at T2, suggests that students already produced /æ/ with a high degree of accuracy prior to receiving EPI. In contrast, the total score for /ɑː/ rose from 61 ($\bar{x}$ = 3.0, SD = 0.8) at T1 to 85 ($\bar{x}$ = 4.2, SD = 0.7) at T2, reflecting a 39.3% increase. The relatively low baseline score at T1, coupled with a broader range of scores, suggests that several learners experienced initial difficulties with this vowel. The diphthong /oʊ/ also demonstrated measurable improvement following EPI. Its total score increased

from 79 ($\bar{x}$ = 3.9, SD = 0.9) at T1 to 91 ($\bar{x}$ = 4.5, SD = 0.7) at T2, reflecting a 15.2% gain and a reduction in standard deviation from 0.9 to 0.7.

The observed improvements across the three vowel features support the effectiveness of EPI for tertiary-level EFL learners, particularly in cases where learners struggled with specific sounds at baseline. The minimal gain in /æ/ production suggests a possible ceiling effect, as learners were already performing at a high level prior to instruction. Although /æ/ is commonly considered a persistent challenge for German-speaking learners due to the lack of a near-open front vowel in their L1 (Schmitt, 2016, pp. 104–106), the strong pre-test performance in this study may indicate previous exposure or prior instruction. In contrast, the substantial improvement in /ɑː/ aligns with research highlighting the effectiveness of EPI in targeting problematic vowels (Saito, 2011, p. 54; Yakut, 2020, pp. 109–110). Learners' initial difficulties with this vowel are consistent with Schmitt's (2016, p. 186) observation that German learners often rely on vowel length rather than quality to distinguish similar sounds, leading to imprecise articulations that EPI can help to resolve (Kelly, 2000, p. 15). Similarly, the improvement in /oʊ/ indicates increased consistency in producing diphthongs that are often simplified in Austrian German (Richter, 2019, p. 132; Swan & Smith, 2001, p. 38). These findings reinforce the view that segmental-focused EPI enhances phonological accuracy and metalinguistic awareness (Lamarca et al., 2016, p. 7; Darcy, 2018), particularly in controlled pronunciation tasks (Saito & Plonsky, 2019, p. 34).

Turning to the consonant sounds, the flapped /ɾ/ rose from 81 ($\bar{x}$ = 4.0, SD = 0.9) at T1 to 95 ($\bar{x}$ = 4.7, SD = 0.4) at T2, resulting in a 17.3% increase alongside a marked decrease in variability. The final segmental feature, post-vocalic /r/, showed substantial improvement, with the total score increasing from 62 ($\bar{x}$ = 3.1, SD = 1.1) at T1 to 81 ($\bar{x}$ = 4.0, SD = 1.1) at T2, reflecting a 30.6% gain. However, the standard deviation remained consistent at 1.1 across both time points, suggesting that while most participants improved, individual differences in performance persisted throughout the instructional period.

The improvement in both consonantal features supports the effectiveness of EPI, though the outcomes differed in consistency. For flapped /ɾ/, the combination of a 17.3% gain and reduced variability suggests that learners not only improved accuracy but also developed more uniform production. This corresponds with Schmitt's (2016,

p. 131) finding that German learners often replace the flap with [d] or an overarticulated [t], and with Richter's (2019, p. 134) observation that the gesture is unfamiliar to Austrian speakers. However, Richter (2019, p. 137) also notes that Austrian German preserves the medial /d/-/t/ contrast, which may have supported learners' ability to perceive and eventually approximate the GA flap, despite its unfamiliar articulation. The substantial gain in post-vocalic /r/ (+30.6%) reflects progress despite persistent variability, a result likely influenced by L1 transfer, as ALs frequently substitute GA's post-vocalic /r/ with uvular variants or omit it altogether (Schmitt, 2016, pp. 133, 181; Richter, 2019, p. 134). These findings align with Saito and Lyster (2012, p. 624) and Galante and Piccardo (2022, p. 385), who demonstrate that explicit instruction can lead to improvement in challenging consonants, particularly those lacking L1 equivalents. Overall, the results confirm that EPI facilitates the development of segmental features that pose considerable difficulty due to articulatory unfamiliarity or cross-linguistic interference.

5.3.2 Suprasegmental Features

To address the second research question, which investigates the impact of EPI on suprasegmental features, each participant's performance was rated across four prosodic domains: intonation, sentence stress, weak forms, and linking. As outlined in Section 2.3.5, a three-point Likert-type rating scale, ranging from 'not demonstrated' (1) to 'fully demonstrated' (3), was employed to analyze the recordings. Consistent with the segmental analysis, these ratings were based on students' recordings of the same diagnostic text, which made a controlled comparison between T1 and T2 possible.

The descriptive statistics obtained from these ratings revealed distinct patterns of improvement across the four suprasegmental features over the course of the semester. In order to provide an initial overview of these patterns, Figure 3 presents the total scores for each suprasegmental feature at T1 and T2. The highest possible score for each suprasegmental feature was 60, reflecting 20 participants each rated on a three-point scale. This comparison serves as the foundation for the more detailed analysis presented below.

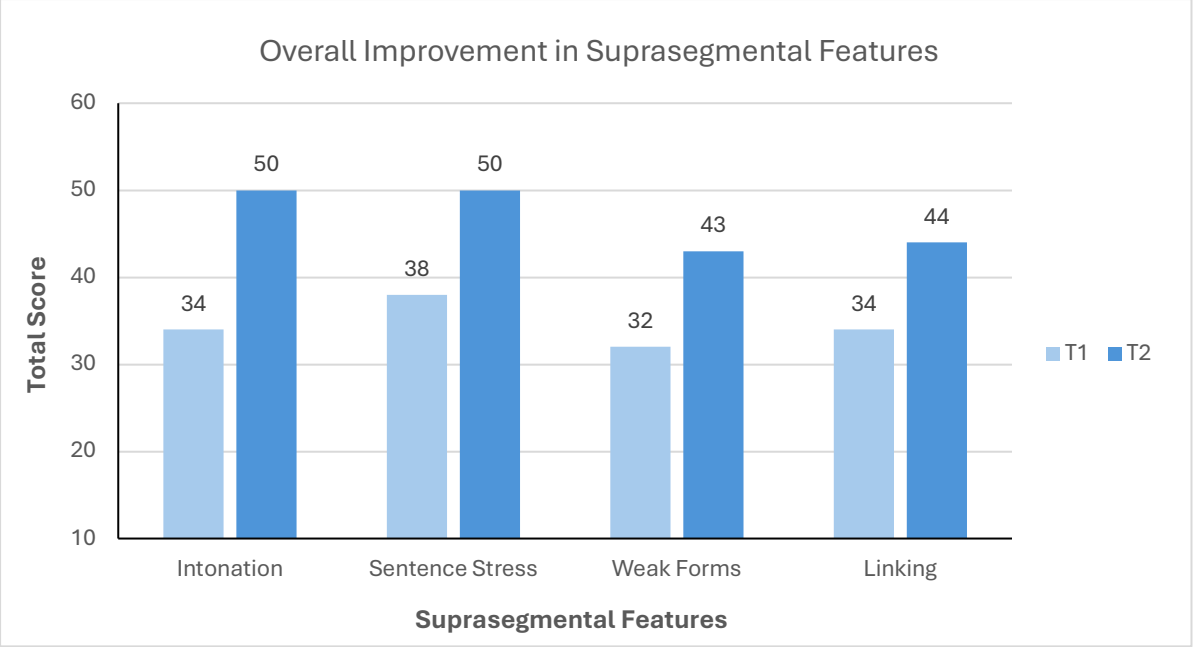

Figure 3. *Total Scores for Suprasegmental Features at T1 and T2*

Figure 3 illustrates the overall improvement in suprasegmental features, with T2 scores consistently exceeding T1 scores across all four domains. The most substantial improvement was observed for intonation, followed by sentence stress, both of which demonstrated noticeable gains at T2 compared to T1 performance. While weak forms and linking also exhibited positive trends, their improvements were comparatively more modest. These findings indicate that EPI contributed to measurable enhancements in students' use of suprasegmental features.

The overall improvement in suprasegmental features suggests that EPI effectively supported learners' development of prosodic control, especially in intonation and sentence stress. This corresponds with findings by Pardede (2018, pp. 151–153), who reported broad gains in intonation, linking, and prominence following EPI. Although improvements in weak forms and linking were more modest, this is consistent with previous research highlighting their low perceptual salience and the influence of L1 transfer (Schmitt, 2016, pp. 119–121; Celce-Murcia et al., 2010, p. 174). Overall, these results reinforce the importance of integrating suprasegmental instruction into tertiary-level pronunciation teaching, as emphasized by Darcy (2018, p. 30) and Sharma (2021, p. 64).

In order to better understand these general trends, a more detailed examination of each individual feature was conducted. Table 7 below provides a summary of the statistical development across all four domains.

Table 7. *Statistical Summary of Suprasegmental Ratings*

Suprasegmental Feature	Total Score T1	Mean Score T1 (SD)	Total Score T2	Mean Score T2 (SD)	Score Increase	% Increase
Intonation	34	1.7 (0.4)	50	2.5 (0.5)	+16	47.1%
Sentence Stress	38	1.9 (0.6)	50	2.5 (0.6)	+12	31.6%
Weak Forms	32	1.6 (0.5)	43	2.1 (0.4)	+11	34.4%
Linking	34	1.7 (0.4)	44	2.2 (0.5)	+10	29.4%

Table 7 shows that all four suprasegmental features demonstrated improvement following EPI, although the extent and consistency of progress varied. The most substantial improvement occurred for intonation, defined as the use of pitch variation across an utterance to reflect communicative meaning. The total score increased from 34 ($\bar{x}$ = 1.7, SD = 0.4) at T1 to 50 ($\bar{x}$ = 2.5, SD = 0.5) at T2, resulting in a 47.1% gain. While some learners demonstrated partial control at T1, the relatively low mean suggests that intonation was generally underdeveloped across the group. By T2, most participants achieved higher scores, indicating more accurate pitch movement in line with target intonation patterns. However, the increase in standard deviation from 0.4 to 0.5 suggests that learner performance became slightly more variable at T2. Similarly, sentence stress, referring to the emphasis placed on key content words to convey structure and meaning, improved considerably. The total score rose from 38 ($\bar{x}$ = 1.9, SD = 0.6) at T1 to 50 ($\bar{x}$ = 2.5, SD = 0.6) at T2, reflecting a 31.6% gain. The stable standard deviation across both time points indicates consistent improvement among participants.

These gains in intonation and sentence stress suggest that EPI successfully addressed core prosodic challenges for ALs. As Richter (2019, p. 135) and Schmitt (2016, pp. 150–153) explain, ALs often transfer rising intonation into English declaratives and wh-questions, leading to unintended pragmatic effects. The results here indicate that focused instruction helped learners develop more target-like pitch contours. These findings align with Galante and Piccardo (2022, p. 384), who found that ESL students improved their use of rising and falling intonation following EPI. A similar pattern was observed for sentence stress, supporting Yakut's (2020, pp. 109–110) claim that explicit instruction enhances learners' metalinguistic awareness and

control over stress placement. Overall, these findings suggest that EPI effectively helps learners overcome L1-influenced prosodic patterns, enabling them to use intonation and stress in a way that supports clearer, more effective communication.

While similarly notable gains were observed for weak forms and linking (+34.4% and +29.4%, respectively), these features presented slightly different developmental patterns. Weak forms showed a decrease in standard deviation from 0.5 to 0.4, indicating not only improved accuracy but also greater consistency among learners. This is particularly noteworthy given the persistent challenge weak forms pose for German-speaking learners, who tend to maintain full vowels due to the limited vowel reduction processes in their L1 (Schmitt, 2016, pp. 119–120). Linking also improved, with scores rising from 34 to 44, but the slight increase in standard deviation from 0.4 to 0.5 suggests more variability in performance at T2. This is consistent with Richter's (2019, p. 135) observation that Austrian learners frequently insert glottal stops where linking is required, making this a persistent obstacle. Despite this, the results demonstrate that EPI can effectively raise learners' awareness of connected speech processes.

5.3.3 Students' Perceptions of EPI and Their Own Pronunciation Progress

In addition to analyzing learners' segmental and suprasegmental development, this study also aimed to explore participants' perceptions of the effectiveness of EPI and their evolving views on their own pronunciation, including aspects such as accent, confidence, challenges, and goal orientation, thereby addressing the third research question. To this end, two questionnaires (Q1 & Q2) were administered at T1 and T2. While production data reveals concrete phonetic improvements, learners' perspectives provide complementary insights into their broader experiences and evaluations of EPI. The following section presents the questionnaire data thematically, comparing T1 and T2 responses to highlight trends in students' perceptions, goals, attitudes, and self-reported progress.

In order to gain a detailed understanding of participants' self-perceived accents, the first questionnaire item asked them to categorize their pronunciation at both T1 and T2. More specifically, participants were asked to select from the categories: 'clearly American', 'rather American', 'clearly British', 'rather British', 'rather Austrian', 'a mix of different accents', or 'other'. Notably, the categories 'clearly British', 'rather British',

and ‘other’ were not selected by any participant at either T1 or T2. In order to enhance clarity and readability, Figure 4 below only represents categories selected by participants at T1 or T2.

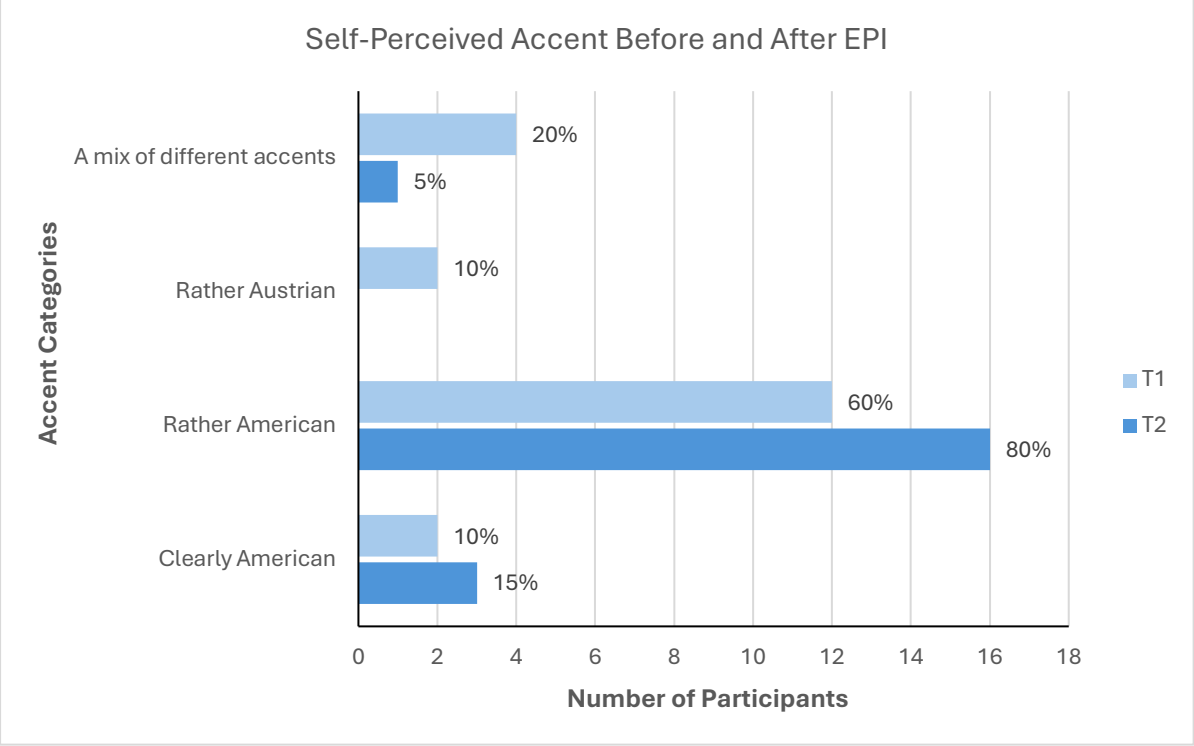

Figure 4. *Shift in Participants’ Self-Perceived Accent Following EPI*

Figure 4 illustrates a clear trend toward stronger identification with GA pronunciation, evident at both T1 and T2. The number of participants describing their accent as ‘rather American’ rose from 12 (60%) at T1 to 16 (80%) at T2. A minor increase was also observed in the ‘clearly American’ category (T1: *n* = 2, 10%; T2: *n* = 3, 15%), though the small number of selections may indicate that learners associated this label with near-native accuracy and held themselves to high standards. In contrast, the number of participants identifying their accent as ‘rather Austrian’ dropped from two (10%) to zero, and those selecting ‘a mix of different accents’ declined from four (20%) to one (5%).

Taken together, these patterns suggest that the perceptual shift toward GA-accented pronunciation reflects the instructional impact of EPI, not only on learners’ actual speech production, but also on how they evaluated and categorized their own pronunciation. The increase in ‘rather American’ responses, alongside the disappearance of the ‘rather Austrian’ self-identification, implies that learners became more attuned to the phonological features targeted in the course and increasingly

perceived themselves as aligning with the GA model. This supports Pardede's (2018, p. 153) findings that EPI can foster greater self-awareness and learner confidence, contributing to more positive self-perceptions. The modest increase in 'clearly American' identifications may further reflect learners' realistic appraisal of their progress, reflecting Levis's (2005, p. 370) observation that tertiary-level students often aspire to native-like pronunciation while acknowledging its difficulty. In this case, EPI appears to have helped participants not only improve their pronunciation but also reflect differently on how their pronunciation aligns with the GA model.

The observed shift toward GA features in participants' self-perceived accents is further supported by their reported pronunciation confidence scores. Participants were asked to rate their overall pronunciation confidence at both T1 and T2 using a Likert scale ranging from 1 ('not confident at all') to 5 ('very confident'). Figure 5 presents the average pronunciation confidence scores reported at T1 and T2.

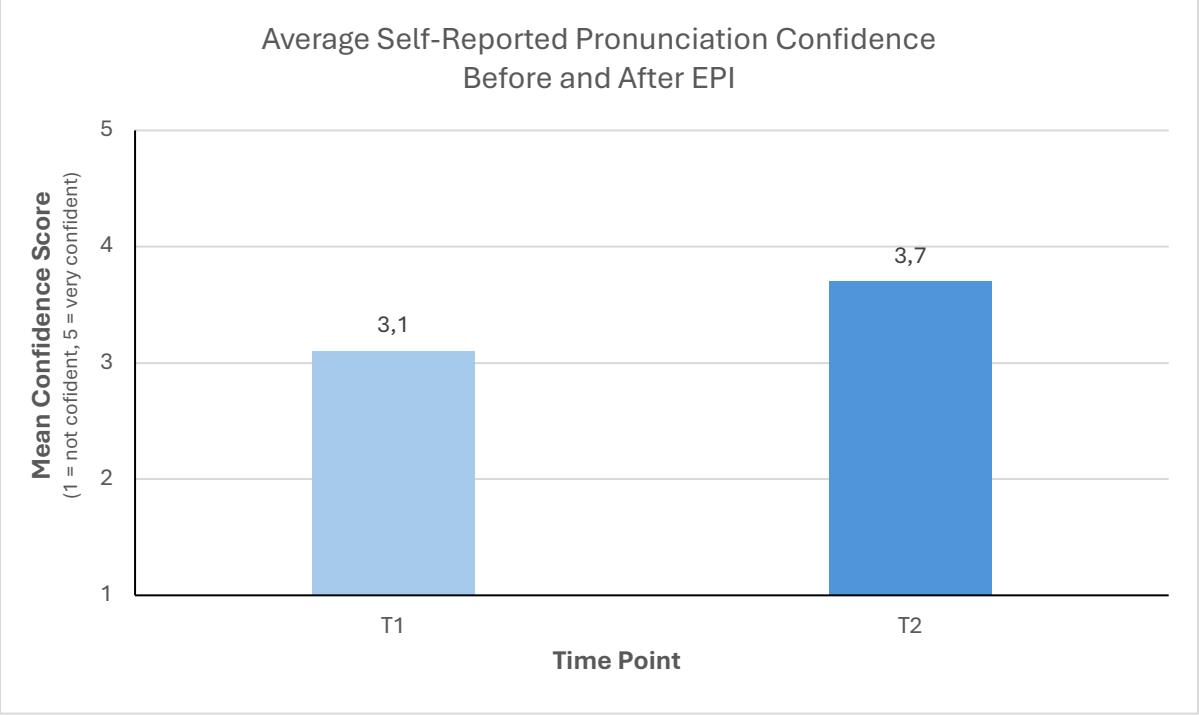

Figure 5. *Development of Participants' Overall Pronunciation Confidence Following EPI*

According to Figure 5, participants' average pronunciation confidence score increased from 3.1 (SD=0.9) at T1 to 3.7 (SD=0.8) at T2. This 0.6-point increase on a 5-point scale indicates a moderate improvement in participants' self-assessed pronunciation confidence. Given the limited range of the scale, this increase suggests that

participants perceived their pronunciation skills more positively by the end of the course.

Moreover, the observed increase in pronunciation confidence may reflect the perceived benefits of structured and targeted EPI. As Pardede (2018, p. 153) observed, well-designed EPI not only supports phonological development but also fosters learner confidence by providing clear goals, engaging materials, and regular feedback. In the present study, features such as focused practice, exposure to GA models, and individualized feedback likely helped participants gain greater control over their pronunciation, thereby reducing uncertainty during speech production. Lamarca et al. (2016, p. 12) similarly found that learner confidence tends to improve when instruction is perceived as helpful and motivating, which in turn encourages more active participation. In this case, the rise in confidence complements the previously discussed self-perceived accent development and segmental gains and reinforces the broader argument that EPI, when implemented meaningfully, supports not just linguistic accuracy but also positive learner affect. Given that pronunciation anxiety and fear of negative evaluation are common barriers in this area (cf. Schwarz et al., 2021, p. 110), the confidence gains observed here are pedagogically significant, especially in tertiary settings, where pronunciation is often neglected despite its importance to learners.

An additional question was included in Q2 to gain even deeper insight into participants' subjective evaluation of their pronunciation progress. More specifically, participants were asked to evaluate their overall pronunciation satisfaction following EPI by indicating whether they felt 'happier than before', 'about the same as before', or 'less happy than before' in relation to their pronunciation progress. The participants' ratings are depicted in Figure 6 below.

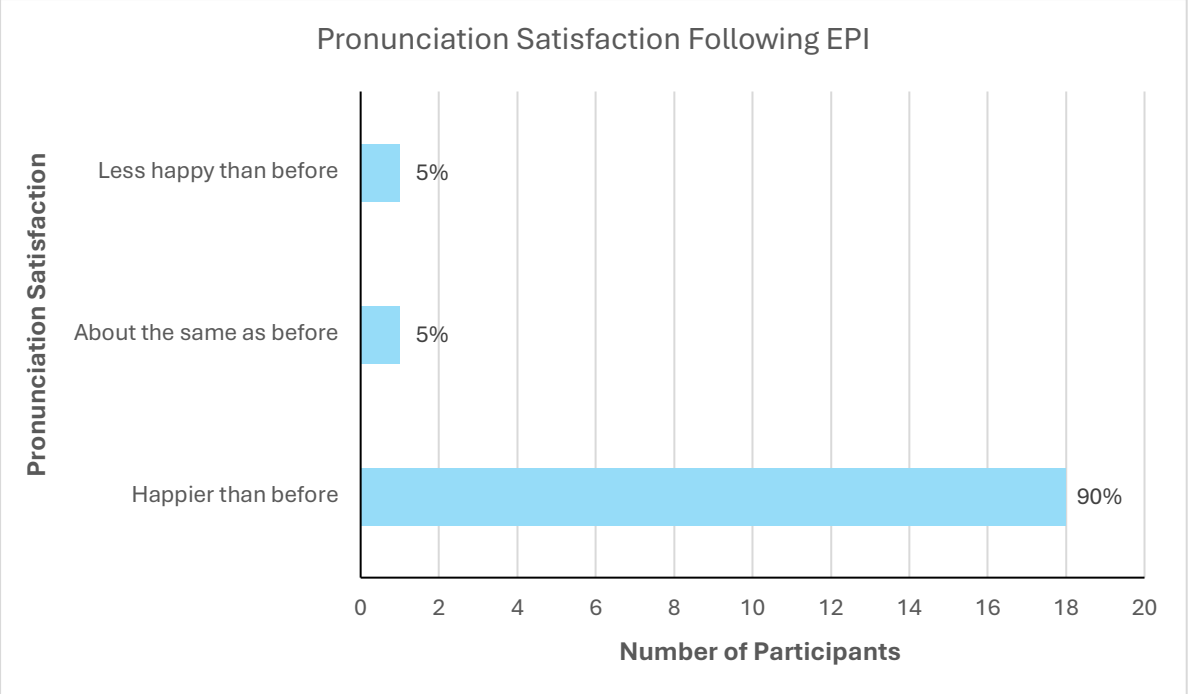

Figure 6. *Participant Ratings of Pronunciation Satisfaction Following EPI*

As shown in Figure 6, the vast majority of participants (*n* = 18, 90%) reported feeling 'happier than before' with their pronunciation, suggesting widespread satisfaction with their perceived progress. Only one participant (5%) reported feeling 'about the same as before', and one (5%) indicated feeling 'less happy than before'. The rarity of neutral or negative responses highlights the generally positive reception of EPI among this group. While it is unclear why one participant felt less satisfied, this response may reflect increased critical awareness of their difficulties or a mismatch between personal expectations and actual progress.

The overwhelmingly positive satisfaction ratings further reinforce the perceived value of EPI and its role in shaping learner experience. The fact that 90% of participants reported feeling happier with their pronunciation indicates that learners not only recognized measurable progress but also derived personal satisfaction from their improvement. This finding is particularly noteworthy given the commonly documented learner aspiration for native-like pronunciation, especially at the tertiary level (cf. Levis, 2005; Nowacka, 2022). As earlier results in this study showed, while students increasingly aligned themselves with an American accent, the majority described their speech as 'rather American' rather than 'clearly American'. This indicates that despite not achieving complete native-likeness, a goal that many learners initially held, they still experienced a strong sense of success. These findings suggest a shift toward

more realistic self-assessment and confirm that satisfaction with pronunciation instruction may not hinge on perfection but rather on perceived progress, increased awareness, and confidence. This interpretation aligns with Burri's (2023, pp. 138–149) findings that learner satisfaction improves when instruction meets expectations and provides meaningful, structured engagement. Similarly, Burri (2015, pp. 75–76) noted that structured pronunciation pedagogy can foster both confidence and a stronger sense of phonological self-awareness. Overall, learners in this study appear to have derived satisfaction not from completely eliminating their foreign accent, but from moving perceptibly closer to their target.

Following participants' evaluations of their pronunciation satisfaction, they were also asked to identify their personal goals for the course. This data was collected at both T1 (as initial goals) and T2 (as reflected goals) to examine whether their goals evolved or remained consistent over the course of the semester. More specifically, participants were presented with a set of predefined goals and were allowed to select multiple options, enabling a structured comparison between T1 and T2 responses. Figure 7 presents the predefined goals alongside participants' reported goals at T1 and T2.

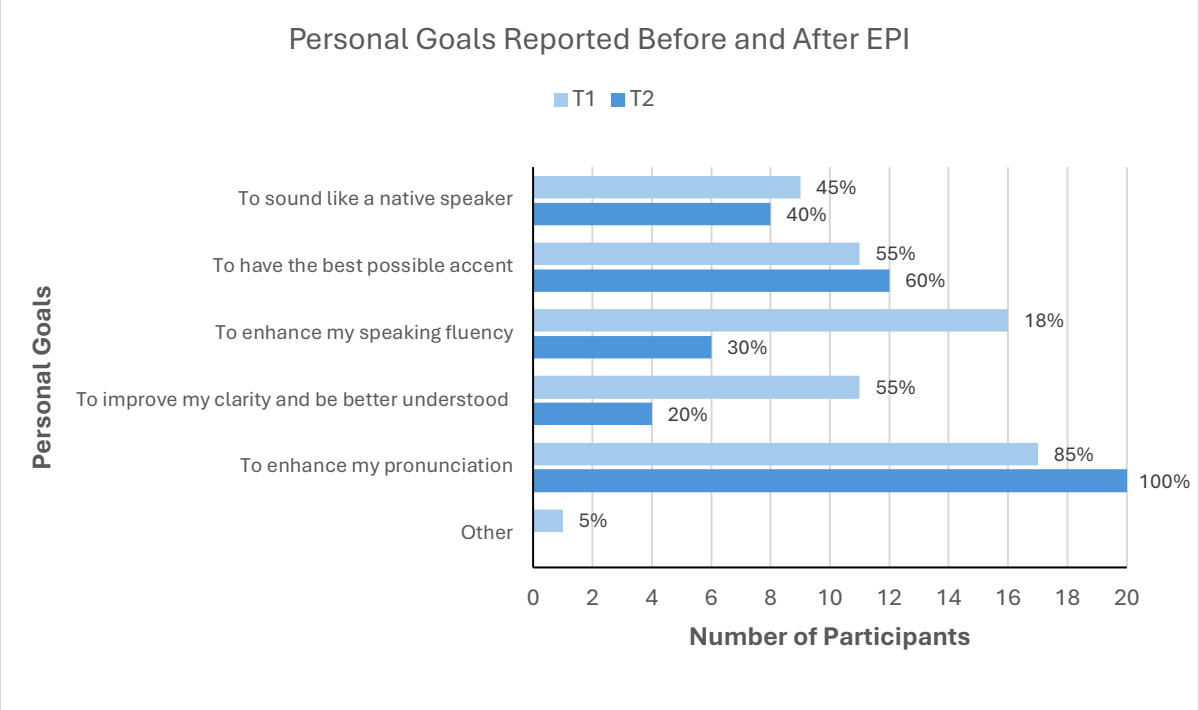

Figure 7. *Participants' Pronunciation Goals Before and After EPI*

As depicted in the bar chart in Figure 7, overall, the most frequently reported goal was ‘to enhance my pronunciation’. At T1, a staggering majority of 85% (*n* = 17) selected this goal, and by T2, it was identified as a primary goal by all participants (*n* = 20, 100%). The second most commonly reported goal was ‘to have the best possible accent’. This objective was endorsed by over half of the participants (*n* = 11, 55%) at T1 and increased slightly to 12 participants (60%) at T2. In contrast, the goal ‘to enhance my speaking fluency’ showed a noticeable decline. While the majority of participants (*n* = 16, 80%) selected this goal at T1, only six participants (30%) identified it as a priority by T2. Similarly, the goal ‘to improve my clarity and be better understood’ was selected by more than half of the participants at T1 (*n* = 11, 55%) but became significantly less common by T2 (*n* = 4, 20%).

A comparable pattern emerged with the goal ‘to sound like a native speaker’. While almost half of the participants (*n* = 9, 45%) selected this objective at T1, it decreased slightly to eight participants (40%) at T2. Additionally, the category ‘Other’ was selected by one participant (5%) at T1, who specified the goal ‘to become more confident in speaking’ (Participant 7). By T2, however, no participants listed goals outside of the predefined categories.

This shift in learners’ stated goals suggests a growing awareness of what pronunciation development entails. While initial goals reflected a mix of broad communicative aims and aspirational targets, such as improving fluency or sounding like a native speaker, learners increasingly prioritized pronunciation as a distinct skill, with 100% selecting it as their main goal by T2. This trend echoes previous findings that many tertiary-level learners initially aspire to native-like pronunciation, despite the limited attainability of such a goal (cf. Levis, 2005, p. 370), and that these aspirations may evolve with increased awareness and instructional experience (cf. Dalton-Puffer et al., 1997, pp. 123–124). Additionally, these findings align with Buczek-Zawiła (2018), who reported that learners tend to prioritize intelligibility over native-like accuracy, recognizing it as a more attainable and communicatively effective objective. While some participants continued to express interest in having’“the best possible accent’, this may reflect a general desire for improvement rather than an insistence on native-like outcomes. Overall, the pattern observed here illustrates how learners shift from idealism to more realistic and personally meaningful pronunciation goals as their understanding of the learning process deepens.

Following participants' reflections on their personal goals at the end of the course, they were also asked to evaluate the extent to which they felt they had achieved these goals. This item was included exclusively in Q2, as participants were only asked to reflect on their progress after the instructional period. Responses were collected using a 4-point rating scale ranging from 'not at all' (1) to 'fully' (4). Figure 8 presents participants' ratings of their perceived achievement of goals.

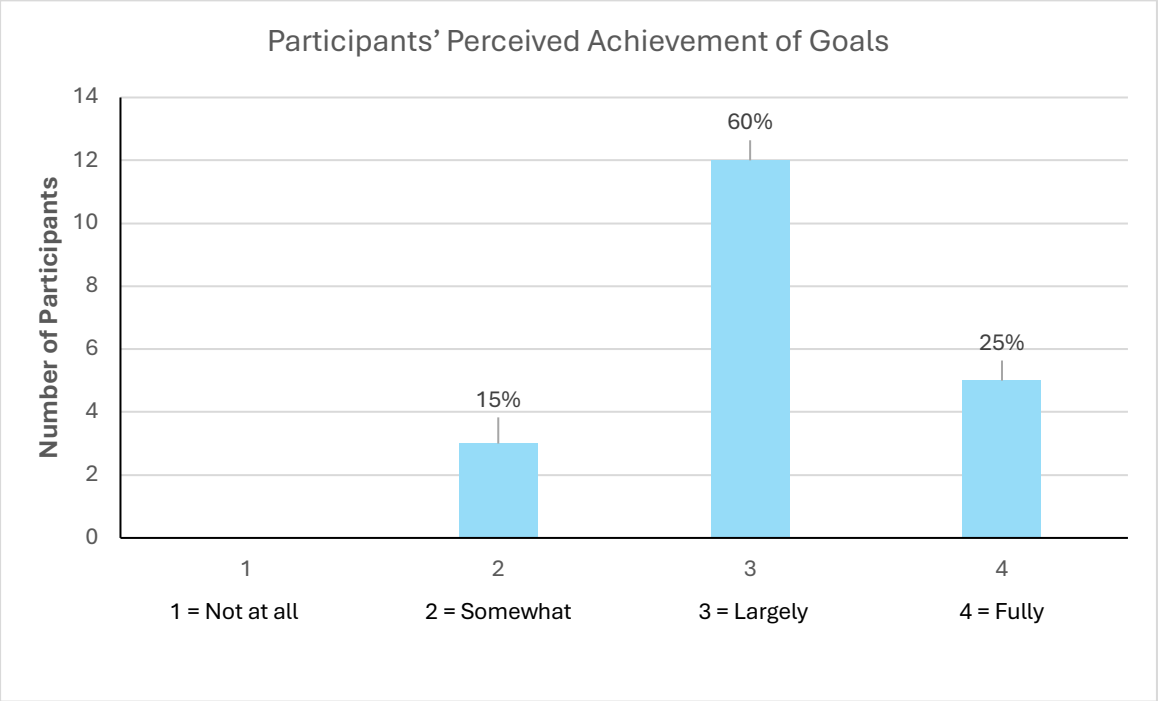

Figure 8. *Perceived Degree of Goal Achievement Following EPI*

As depicted in Figure 8, participants generally perceived substantial progress toward achieving their personal pronunciation goals. A majority (*n* = 17, 85%) reported having achieved their goals either mostly or fully, with 60% selecting 'mostly' and 25% selecting 'fully'. The mean rating of 3.1 (SD = 0.8) further reflects this positive trend. Notably, no participants selected the option 'not at all', and only three (15%) indicated partial goal attainment, suggesting a generally favorable perception of their pronunciation progress.

These overwhelmingly positive self-reports may indicate that learners felt supported throughout the instructional period and perceived meaningful progress toward their pronunciation targets. One likely reason for this perceived success is the explicit nature of the pronunciation instruction learners received. As previous research has shown, EPI promotes phonological development by targeting specific features, enhancing metalinguistic awareness, and providing structured feedback (cf. Kelly,

2000; Galante & Piccardo, 2022; Gordon & Darcy, 2016). Especially at the tertiary level, where learners often pursue ambitious or highly specific goals, this type of instruction has been shown to foster both intelligibility and confidence (cf. Pardede, 2018; Lamarca et al., 2016). Moreover, learners are more likely to perceive their goals as achievable when instructional practices align with their stated aspirations and encourage reflection and self-monitoring (cf. Horwitz, 1988; Derwing & Rossiter, 2002). In light of this, the high degree of goal attainment reported in this study likely reflects the combined effects of focused instructional support and increasingly realistic, intelligibility-based learner goals developed throughout the semester.

In order to further explore potential benefits beyond those previously discussed, a subsequent item in Q2 asked participants whether the course had helped them achieve additional personal goals related to their English pronunciation. This question aimed to identify broader advantages of the course that might not have been explicitly addressed in earlier questions. Responses were collected using a straightforward Yes/No format, as displayed in Figure 9 below.

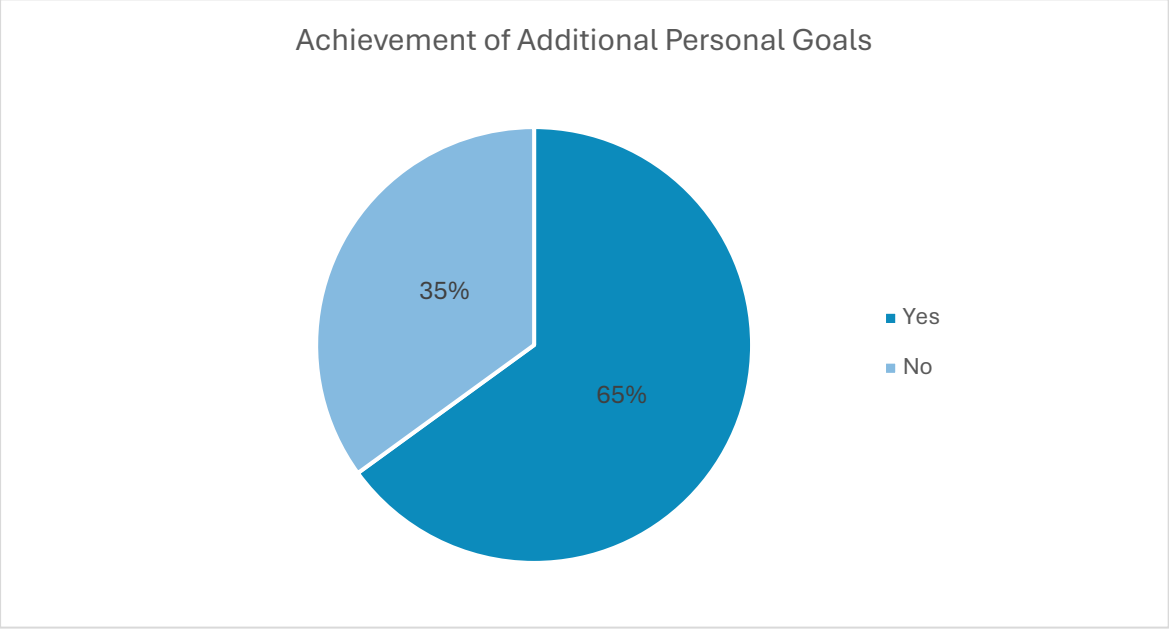

Figure 9. *Additional Goal Fulfillment Reported by Participants*

As Figure 9 shows, a substantial proportion of participants (65%, *n* = 13) reported achieving additional goals beyond those predefined in the previous item, while 35% (*n* = 7) indicated that they had not. These findings align with earlier results reflecting a generally positive perception of progress. Moreover, the additional gains reported by students may reflect improvements in areas that were not explicit course objectives

but were nonetheless fostered through the overall instructional approach. In order to explore this further, participants who responded ‘yes’ were subsequently asked to specify any additional goals they had achieved through the course. Their open-ended responses were analyzed thematically and grouped into three main categories: (1) increased confidence in speaking, (2) improved accent perception, and (3) greater awareness of pronunciation mistakes.

The most frequently mentioned category was increased confidence in speaking, reported by eight participants (40%). These participants described feeling more confident when speaking, as illustrated in the examples below:

> “More confident in the American accent, more fluent in speaking, and better pronunciation.” (Participant 8)
>
> “I do think I gained confidence in speaking English.” (Participant 12)
>
> “A bit more confident when speaking.” (Participant 13)

Improved accent perception was mentioned by four participants (20%), who noted that they had become more attuned to different pronunciation patterns and were better able to distinguish between various English accents, as demonstrated in the following examples:

> “I think it definitely improved my ability to understand and differentiate different accents.” (Participant 3)
>
> “I can hear differences between BE and AE more easily.” (Participant 7)
>
> “Distinguishing accents I hear.” (Participant 18)

Lastly, greater awareness of pronunciation mistakes was mentioned by one participant (5%), who noted that they had become more attuned to both their own errors and those of others:

> “I notice mistakes of myself and others more and know how to correct them.” (Participant 17)

Overall, the open-ended responses reveal that, beyond meeting their original pronunciation goals, several learners experienced broader communicative and personal benefits. The most frequently reported outcome was increased confidence in speaking, which reflects the positive emotional and motivational impact of meaningful pronunciation instruction (cf. Lamarca et al., 2016; Pardede, 2018). Additionally, 20% of participants reported an improved ability to perceive accents, suggesting a

heightened sensitivity to English sound patterns and variation. This aligns with Galante and Piccardo's (2022, p. 385) finding that EPI enhances learners' phonological awareness, contributing to both perception and production skills. Participant 17 noted an increased awareness of pronunciation errors, further indicating the development of reflective and self-monitoring skills. Given that all participants were enrolled in the BEd program, this heightened perceptual awareness is particularly noteworthy, as it directly supports the development of skills essential for future English language teachers. Overall, these outcomes suggest that learners not only produced sounds more accurately but also developed greater control, awareness, and confidence in their spoken English, which reflects earlier findings from this study showing that students felt more confident after completing the course.

In order to obtain a more comprehensive understanding of participants' learning experiences, they were asked at T1 to identify which areas of pronunciation they perceived as most challenging. At T2, participants indicated which aspects they believed had improved and which remained difficult. This comparison aimed to identify which pronunciation features participants still found challenging after receiving EPI and which areas they perceived as having improved most significantly. Figure 10 presents participants' responses from T1 and T2.

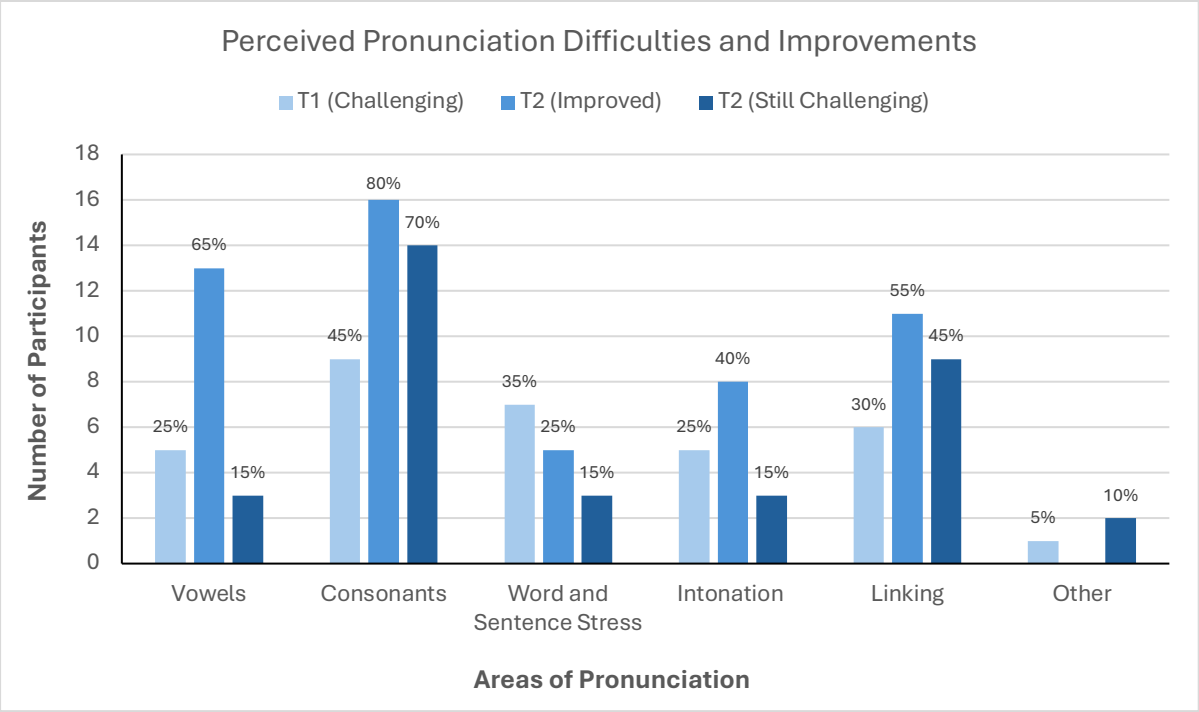

Figure 10. *Development and Persistence of Pronunciation Challenges*

As depicted in Figure 10, consonants emerged as the most commonly reported difficulty at T1, with 45% (*n* = 9) of participants selecting this category. While 80% (*n* = 16) reported improvement by T2, consonants remained a persistent concern for 70% (*n* = 14). Vowels were reported as problematic by 65% (*n* = 13) before instruction, but perceived improvement in this area was limited to just 15% (*n* = 3), with an equal number still reporting difficulty at T2. Linking was initially identified as challenging by 30% (*n* = 6), and although 55% (*n* = 11) reported improvement after instruction, 45% (*n* = 9) continued to struggle with this feature. Sentence stress and intonation showed more moderate trends: at T1, 35% (*n* = 7) and 40% (*n* = 8) found these features difficult, respectively. By T2, 25% (*n* = 5) reported improvement in sentence stress, and 40% (*n* = 8) in intonation, while 15% *(n* = 3) continued to find each feature challenging.

Taken together, these results suggest that segmental features, particularly consonants and vowels, were perceived as the most persistent challenges, even after explicit instruction. This supports earlier research indicating that German-speaking learners often struggle with features such as final obstruent devoicing, the /w/-/v/ contrast, and voiced affricates, which are not present in their L1 (cf. Richter, 2019, pp. 132–133). The limited perceived improvement in vowel production may point to deeper perceptual barriers, as difficulties in perception and production[8] are often closely linked. In fact, Sardegna and Jarosz (2023, p. 42) emphasize that these domains are interdependent and that addressing both simultaneously can support learners in monitoring and adjusting their pronunciation more effectively. This interdependence is further supported by Gordon and Darcy (2016, p. 64), who selected vowels such as /i/, /ɪ/, /æ/, and /e/ for targeted instruction precisely because these sounds are known to present persistent challenges in both perception and production across a range of L1 backgrounds. Learners' self-perceptions in this study may therefore reflect not only articulatory difficulties but also ongoing challenges in accurately perceiving and internalizing vowel distinctions. These findings highlight the importance of instructional approaches that explicitly target both perception and production in order to support progress in segmental pronunciation.

[8] In this context, *perception* refers to learners' ability to accurately hear and differentiate English segmental sounds, while *production* involves their ability to articulate those sounds accurately (cf. Linebaugh & Roche, 2015).

In contrast, suprasegmental features, especially intonation and stress, showed more favorable trends, with a higher proportion of participants reporting improvement and fewer ongoing difficulties. This supports findings by Gordon and Darcy (2022, p.182), who argue that suprasegmental instruction often yields visible gains, even in short-term interventions. However, the ongoing challenge of linking, despite relatively high improvement, highlights the difficulty of retraining prosodic habits like word-boundary preservation, which are deeply embedded in German phonology (cf. Schmitt, 2016).

In addition to selecting from the predefined categories concerning perceived pronunciation difficulties and improvements, participants who chose 'Other' were prompted to specify any challenges not captured by the listed options. At T1, one participant described their challenges as "a mixture of those mentioned above" (Participant 20), indicating that their difficulties could not easily be attributed to a single feature. At T2, two participants provided further elaboration. One participant noted an ongoing perceptual issue with vowel contrasts: "I feel like I theoretically can pronounce the sounds of American English, but sometimes I don't know/hear which one is required. E.g., the auburn vs. the olive sound" (Participant 2). This difficulty may reflect the broader tendency among German-speaking learners to rely on vowel length rather than vowel quality when distinguishing English vowels, particularly in contrasts like /ɑː/ vs. /ɔː/, which are frequently confused (Schmitt, 2016, p. 186). Finally, another participant mentioned "the voiced affricates" (Participant 10) as a continued area of difficulty, which is consistent with known L1 transfer issues, as German lacks stable equivalents for sounds like /dʒ/ and /ʒ/ (Schmitt, 2016, p. 114; Richter, 2019, p. 132). Taken together, these responses confirm patterns described in the literature and also raise the possibility that some pronunciation challenges, such as the perceptual difficulty suggested by Participant 2, may persist even after EPI, particularly when tied to cross-linguistic interference.

Moreover, participants' overall perceptions of the effectiveness of EPI were assessed at both time points. At T1, participants rated their belief that EPI would enhance their pronunciation skills, while at T2, they evaluated whether EPI had indeed improved their skills. Responses were measured on a 5-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (5). The findings are illustrated in Figure 11.

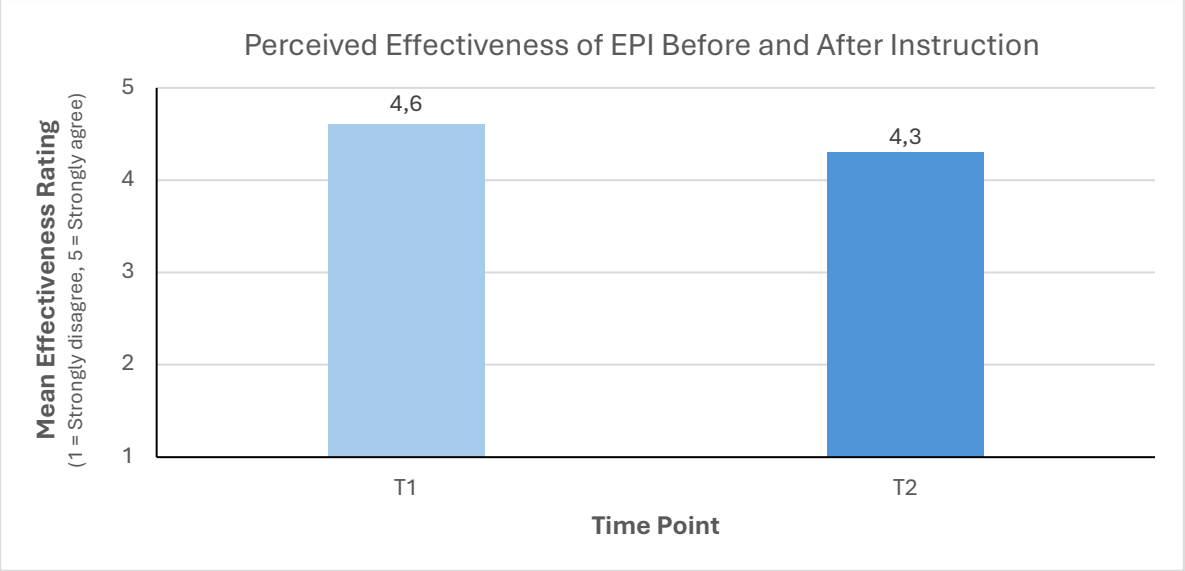

Figure 11. *Participants' Perceived Effectiveness of EPI Before and After EPI*

As shown in Figure 11, participants' initial beliefs about the effectiveness of EPI were highly positive. At T1, they responded to the statement: *I believe that explicit pronunciation instruction provided throughout this semester will lead to improvements in my pronunciation skills*, yielding a mean rating of 4.5 (SD = 0.6). Twelve participants (60%) expressed strong agreement, seven (35%) partial agreement, and one (5%) chose a neutral response. At the end of the semester (T2), participants were presented with a slightly reworded statement: *I believe that explicit pronunciation instruction provided throughout this semester has significantly improved my pronunciation skills*. This received a slightly lower mean of 4.3 (SD = 0.6). Although the majority still responded positively, the distribution shifted: eight participants (40%) now expressed strong agreement, ten (50%) partial agreement, and two (10%) selected a neutral response. This modest decline suggests that, while most participants continued to view EPI as beneficial, their post-instruction evaluations were somewhat more reserved than their initial expectations had been.

The consistently high ratings across both time points indicate that participants maintained a strong belief in the value of EPI, even after completing the course. This aligns with previous research, which consistently shows that EFL learners view EPI as both beneficial and necessary (cf. Alghazo, 2015; Burri, 2023; Derwing & Rossiter, 2002; Nguyen et al., 202). Nevertheless, it is still worth taking a closer look at the present results, as they offer insight into how learners' perceptions of EPI may shift throughout the course of instruction.

The slight decline from a mean of 4.5 at T1 to 4.3 at T2 suggests a modest shift in perception, which may reflect a more nuanced understanding of what EPI can realistically achieve over a single semester. Rather than signaling disappointment, this adjustment likely indicates an evolving awareness of the complexity of pronunciation learning, a phenomenon observed in previous research on learner perceptions (cf. Burri, 2023; Nguyen et al., 2021). As learners engage more deeply with pronunciation instruction, they often become more attuned to the subtleties of their own speech and the areas that require continued effort. This growing metacognitive awareness may lead to slightly more tempered evaluations, even when overall satisfaction and confidence increase. These findings align with the work of Lamarca et al. (2016) and Pardede (2018), who emphasize that positive learner engagement is closely tied to the perceived relevance and quality of instruction. In the present study, although the average rating declined slightly, the consistently high scores across both time points suggest that participants continued to experience EPI as a meaningful and supportive component of their language learning, even as their expectations became more aligned with the challenges of pronunciation development.

Having established participants' overall perceptions of EPI's effectiveness, it is equally important to examine which specific aspects of the course were considered most helpful. Therefore, at T2, participants were asked to indicate which predefined aspects of the course (PPOCS1 and lab) they found most helpful in improving their GA pronunciation skills. The results are presented in Figure 12 below.

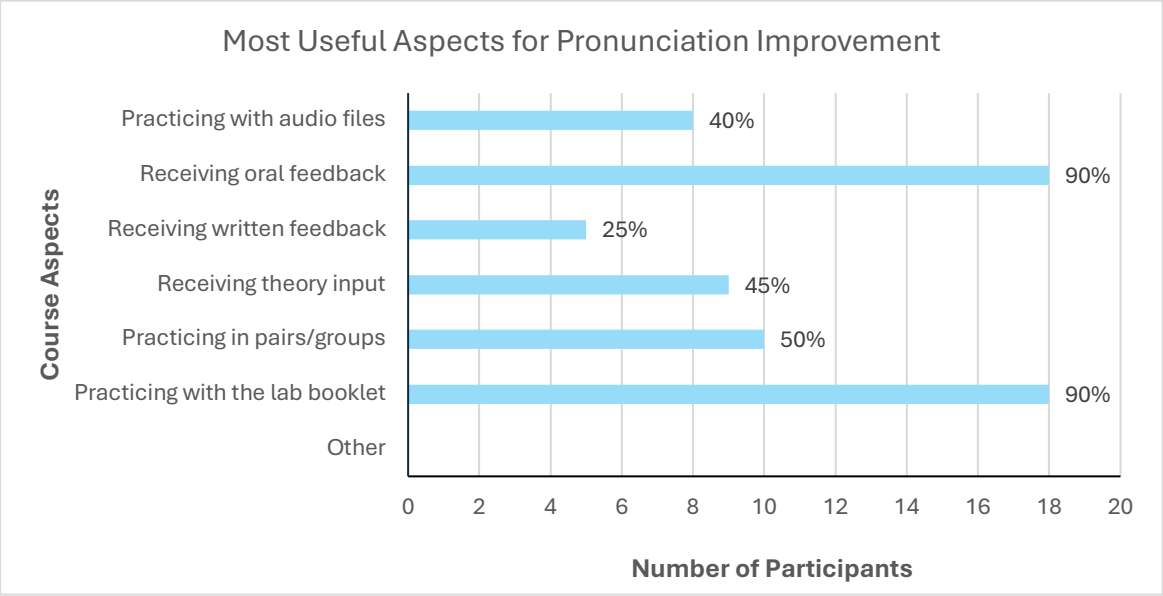

Figure 12. *Participants' Perceptions of Effective Elements of EPI*

Figure 12 illustrates participants' perceptions of which aspects of the course they found most helpful. Participants were presented with six predefined options. The two most frequently selected elements were 'receiving oral feedback' and 'practicing with the tasks in the lab booklet', both endorsed by 18 participants (90%). Practicing in pairs or groups was selected by 10 participants (50%), and 9 participants (45%) reported that receiving theory input had been helpful. Practicing with audio files was chosen by 8 participants (40%). In contrast, only 5 participants (25%) found written feedback to be useful. Notably, no participants selected the 'Other' category, indicating that the predefined options adequately captured the elements they found effective.

These findings highlight learners' strong preference for interactive and guided practice, supported by immediate and personalized feedback. This preference is echoed in Burri's (2023, pp. 134–140) observation that students often welcome corrective feedback but find traditional instruction overly controlled, instead favoring more communicative, learner-driven activities. In line with this, the lab booklet's high endorsement emphasizes the value of structured, scaffolded practice, particularly when paired with tutor guidance and opportunities for repetition and self-monitoring. By contrast, the relatively low selection of written feedback (25%) may reflect its limited role in pronunciation learning, where oral, individualized feedback is more effective in supporting learners' awareness and accuracy (cf. Gordon & Darcy, 2022; Mora & Mora-Plaza, 2023). This pattern of preferences aligns with prior research, which indicates that learners benefit most from instruction that is explicit, relevant, and interaction-focused (cf. Derwing & Rossiter, 2002; Lamarca et al., 2016; Nguyen et al., 2021). Taken together, these insights support the continued prioritization of oral feedback, hands-on tasks, and peer interaction in pronunciation instruction, while also maintaining a balance of theoretical input and structured reflection to promote learner autonomy and sustained progress.

To gauge whether the course encouraged ongoing pronunciation practice, the final item in Q2 asked participants: *How motivated are you to continue practicing pronunciation after having completed the course (PPOCS1 & the lab)?* Figure 13 presents their responses, rated on a four-point scale from 'not motivated at all' (1) to 'highly motivated' (4).

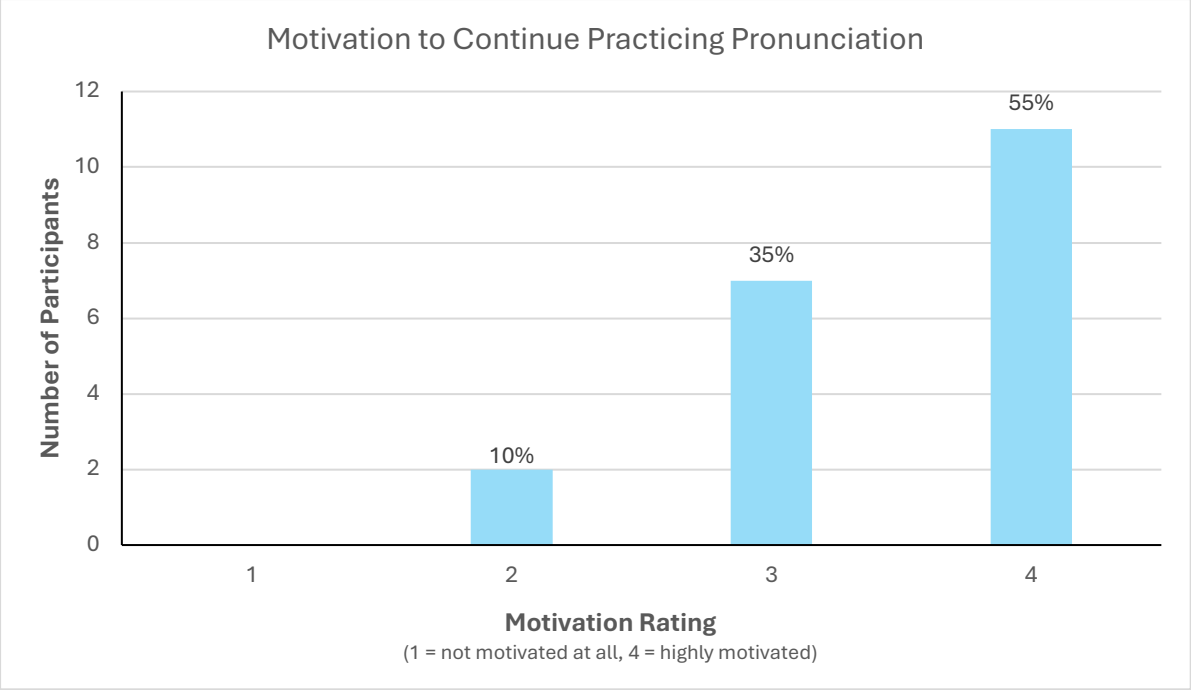

Figure 13. *Participants' Self-Reported Motivation to Continue Practicing Pronunciation*

As illustrated in Figure 13, participants reported high levels of motivation to continue practicing pronunciation after completing PPOCS1 and the lab course. In fact, over half of the participants (*n* = 11, 55%) expressed a strong desire to continue. An additional seven participants (35%) indicated moderate motivation. Notably, only two participants (10%) reported feeling minimally motivated, and none of the respondents described themselves as 'not motivated at all'. With a mean score of 3.45, these findings suggest that most participants maintained a positive and proactive attitude toward further pronunciation practice.

As highlighted in earlier research, such motivation often develops when instruction is perceived as relevant, supportive, and goal-oriented (cf. Pardede, 2018; Lamarca et al., 2016). This sustained motivation likely stems from participants' experience of meaningful progress and effective instruction throughout the course. When learners perceive that their efforts are paying off and that the instruction supports their individual goals, their motivation to continue learning is strengthened. As previously discussed, participants rated the course highly in terms of effectiveness, suggesting that they found the instruction both impactful and well-aligned with their needs. Research has shown that when pronunciation instruction includes guided, communicative practice and supports learner agency, students are more likely to remain engaged and committed to improvement (cf. Nguyen et al., 2021; Burri, 2023).

In this context, the reported motivation to continue practicing pronunciation beyond the course reflects not only satisfaction with the instructional experience but also a developing sense of learner autonomy.

Overall, these findings corroborate earlier results on satisfaction, confidence, and goal achievement. Taken together, they indicate that learners not only appreciated the course experience but also felt motivated to continue improving their pronunciation beyond its conclusion. The fact that motivation remained high even after the course ended suggests that participants saw long-term value in what they had learned and felt equipped to build on it independently. It should be noted, however, that the questionnaire was administered before students took their final exam, and it is possible that participants' ratings may have differed had they received their final grades beforehand. Moreover, since all participants in this study were BEd students enrolled in a teacher education program, their heightened motivation may also reflect an increased awareness of the professional relevance of pronunciation skills for future English teachers. Nonetheless, these results highlight the potential of EPI to support both pronunciation development and learners' sustained engagement with the learning process.

6 Conclusion

This master's thesis aimed to investigate how EPI affects pronunciation development and learner perceptions among Austrian EFL university students enrolled in the teacher education program (BEd), all of whom had German as their first language. Using a short-term longitudinal mixed-methods design, the study assessed participants' improvement across five segmental and four suprasegmental features of GA. Additionally, it examined changes in learners' self-perceived accents, confidence, pronunciation goals, and perceived challenges, as well as their evaluations of the effectiveness of EPI and their motivation to continue improving their pronunciation after the course.

The results provide strong evidence that EPI supports measurable improvement in both segmental and suprasegmental pronunciation. Ratings based on pre- and post-instruction recordings revealed progress across all target features, indicating that even one semester of EPI can lead to significant gains. Among the segmental features, the most substantial improvements were observed for /ɑː/ and post-vocalic /r/, both of which are known to pose persistent challenges for German-speaking learners due to their absence or different realization in the L1. Progress was also evident for /oʊ/, flapped /t/, and /æ/, although /æ/ showed the smallest gain, likely because it was already produced with a relatively high degree of accuracy prior to instruction.

With regard to suprasegmental features, learners also demonstrated clear progress. The most notable improvements were observed in intonation and sentence stress. In contrast, gains in weak forms and linking were more modest, which may be partly attributed to first language influence. As German does not employ linking in the same way as English, such features may be less intuitive and require more time and targeted support to acquire. It is therefore likely that a more extended period of instruction would have led to further progress in these areas. Overall, these findings confirm earlier research demonstrating the effectiveness of EPI at the tertiary level and provide additional evidence that both segmental accuracy and suprasegmental control can be improved through EPI, especially when it directly targets persistent challenges associated with learners' L1.

In addition, the study revealed notable changes in students' perceptions of their pronunciation development and instructional experience. Participants reported

increased confidence and high levels of satisfaction with their progress. Notably, most students felt they had achieved their pronunciation goals either mostly or fully, and nearly all expressed strong motivation to continue practicing beyond the course. When asked about specific course elements, learners particularly valued oral feedback and structured practice tasks, suggesting that a combination of explicit instruction and interactive, scaffolded practice was perceived as especially effective. Overall, these results align with previous research showing that students not only benefit from EPI but also appreciate its clarity, relevance, and positive influence on their motivation.

These insights further suggest broader pedagogical implications regarding the integration of pronunciation instruction into tertiary-level English language curricula. The inclusion of targeted pronunciation courses such as PPOCS 1 and its accompanying language lab, offered at the University of Vienna within the Department of English and American Studies, demonstrates how EPI can not only foster measurable improvement in students' pronunciation skills but also enhance their confidence and motivation over a relatively short period. Given the consistently positive learner responses and the substantial gains observed over the course of a single semester, this approach offers a promising model for more systematically incorporating pronunciation instruction into university-level English language programs, including both BA and BEd curricula.

In conclusion, this thesis contributes to the growing body of research supporting the inclusion of EPI in university-level EFL programs. It highlights that ALs with German as their first language can make notable gains in both pronunciation accuracy and self-perception within a relatively short instructional period. By addressing the underrepresentation of this learner group in pronunciation research, the study not only adds empirical evidence specific to the Austrian tertiary context but also enhances understanding of how EPI can support both phonological development and learner engagement. These findings challenge the notion that meaningful pronunciation gains require long-term or immersive instruction, and instead underscore the impact of well-structured, L1-sensitive pedagogical design. Importantly, they also demonstrate that pronunciation progress is still attainable for adult learners at an advanced academic level. As such, the study offers both theoretical and pedagogical insights that can inform future research and curriculum development in diverse tertiary contexts.

7 Limitations and Directions for Future Research

While this thesis makes an important contribution to the underexplored area of EPI for L1 German EFL learners, particularly those aiming to approximate GA pronunciation, it is essential to acknowledge several limitations that contextualize the findings and inform future research.

One notable limitation is the study's small sample size (N = 20), which, while carefully selected for homogeneity, limits the generalizability of the results. The focus on a single university and a specific learner group (BEd students with a German L1 background) necessitates caution when applying these findings to other instructional contexts, language backgrounds, or proficiency levels. Future studies with larger and more diverse samples could help validate and extend these results, particularly by comparing learners from different L1s or educational settings.

Additionally, the absence of a control group hinders the drawing of definitive conclusions about whether the instructional intervention alone caused the changes. While the short-term longitudinal panel design offers valuable insights into developmental trends, the inclusion of a control group or comparison condition would provide a more robust basis for evaluating instructional effectiveness. Experimental or quasi-experimental designs could further explore the relative impact of different instructional methods.

Furthermore, the assessment of pronunciation was limited to a single speech style, controlled reading, using a diagnostic passage recorded at two time points. While this approach ensured consistency and allowed for detailed phonetic analysis, it does not reflect learners' spontaneous speech production. As Derwing and Munro (2015, p. 88) and Schmitt (2016, pp. 196–197) argue, spontaneous tasks better capture real-world communicative ability and may yield different insights into learners' progress. Future research should, therefore, include both controlled and spontaneous tasks to assess the extent to which instructional gains transfer to more natural speech contexts.

Finally, all pronunciation ratings were conducted by a single rater, which, although mitigated through double-rating procedures and the use of clearly defined analytic scales, introduces the possibility of rater bias. While the researcher was a trained and experienced listener, future studies could benefit from using multiple raters to

strengthen inter-rater reliability and enhance the objectivity of pronunciation assessment.

In light of these limitations, future research could explore several promising directions. These include incorporating spontaneous speech tasks, examining long-term retention, comparing instructional approaches, and investigating the effects of individualized feedback, perception-based training, and technology-enhanced instruction. Additionally, there is a clear need for further studies that focus specifically on learners' subjective experiences and evolving pronunciation beliefs, particularly among L1 German speakers aiming to approximate the GA accent.

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Appendix

READING A SHORT TEXT

- READ THROUGH THE TEXT ONCE OR TWICE
- RECORD YOURSELF READING THE TEXT ALOUD
- UPLOAD THE VIDEO RECORDING

THE STORY OF LITTE RED RIDING HOOD

Once upon a time, there was a little girl who lived in a well-known village near the woods. Whenever she went outside, the little girl wore a red riding cloak, so everyone called her Little Red Riding Hood. One day, her mother said to her, “Take this basket of good foods, sweet wine and books to your grandmother’s cottage, but do not talk to strangers!” Thinking not to, Little Red Riding Hood put on her boots and skipped off into the thick of the woods. On her way she met the Big Bad Wolf who asked, “Where are you going, little girl?” “To visit my old grandma!” she answered. The wolf then ran very fast through the woods to the grandmother’s cottage and knocked on the door. When the grandmother opened the door, he locked her up in the cupboard. Little Red Riding Hood reached the cottage and went to Grandma’s bed. “My! What big eyes you have, Grandma!” she said in surprise. “All the better to see you with!” replied the wolf. “My! What big ears you have!” said Little Red Riding Hood. “All the better to hear you with!” said the wolf. “Look at those teeth! They are so big, Grandma!” said the little girl. “All the better to eat you with!” growled the wolf. Little Red Riding Hood screamed and woodcutters came running into the cottage. They beat the rude wolf and rescued the Grandmother from the cupboard. The Big Bad Wolf ran away never to be seen again.

The effects of explicit pronunciation teaching on EFL university students' pronunciation.

Dear participants,

My name is Valerie and I am currently writing my **MEd thesis** at the **Department of English and American Studies** at the **University of Vienna**. This survey is part of my MEd thesis and aims to investigate the effects of explicit pronunciation teaching on EFL university students' pronunciation.

Participation is **voluntary** and **participants remain anonymous**. The time required for completing this survey is about **5 minutes.**

By clicking the "Next" button below, you confirm that you have been informed about the nature of this study and willingly consent to take part in it. You understand that you may withdraw from the study at any time.

If you have any further questions, please do not hesitate to contact me via email:

Valerie White-Hautzinger
valerie.hautzinger@univie.ac.at.

Thank you very much for your time and help!

* Gibt eine erforderliche Frage an

Background questions

1. 1. Your name: *

2. 2. Gender *

Markieren Sie nur ein Oval.

- ◯ Female
- ◯ Male
- ◯ Non-binary
- ◯ A gender identity not mentioned here
- ◯ Prefer not to say

3. 3. Age *

Markieren Sie nur ein Oval.

- ◯ <19
- ◯ 19-25
- ◯ 26-30
- ◯ >30

4. 4. Program you are enrolled in: *

Markieren Sie nur ein Oval.

- ◯ BA
- ◯ BEd

5. 5. What is your first language(s) (L1)? *

_____

6. 6. What language(s) do you speak at home? *

_____

7. 7. How old were you when you first started learning English? *

Markieren Sie nur ein Oval.

- <10
- 10-14
- 15-18
- >18

8. 8. Have you ever spent time in an English-speaking country? *

Markieren Sie nur ein Oval.

- Yes
- No

9. 9. If yes, where and for how long?

_____

10. 10. Is this your first time taking PPOCS1? *

Markieren Sie nur ein Oval.

- Yes
- No

Your English accent

11. 11. What do you think your accent in English sounds like? *

Markieren Sie nur ein Oval.

- ◯ Clearly American
- ◯ Rather American
- ◯ Clearly British
- ◯ Rather British
- ◯ Rather Austrian
- ◯ A mix of different accents (e.g. a mix of American and British)
- ◯ Other

12. 12. If you clicked "other", please specify.

_____

13. 13. Which accent did your English teacher at secondary school have? *

_____

14. 14. Rate your current level of confidence in your English pronunciation. *

Markieren Sie nur ein Oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very confident

15. 15. What personal goals do you hope to achieve in this course? *

Wählen Sie alle zutreffenden Antworten aus.

- [ ] To sound like a native speaker
- [ ] To have best possible accent
- [ ] To enhance my speaking fluency
- [ ] To improve my clarity and be better understood
- [ ] To enhance my pronunciation
- [ ] Other

16. 16. If you clicked "other", please specify.

_____

17. 17. What area(s) of pronunciation do you find most challenging? *

Wählen Sie alle zutreffenden Antworten aus.

- [ ] Vowel sounds (e.g. /i:/ vs. /ɪ/, /aʊ/, /oʊ/)
- [ ] Consonants (e.g. /w/ vs. /v/, /θ/ vs. /ð/, /s/ vs. /z/)
- [ ] Stress patterns in words or sentences
- [ ] Intonation and rhythm of sentences
- [ ] Linking sounds in connected speech
- [ ] Other

18. 18. If you clicked "other", please specify.

_____

19. Please indicate your level of agreement with the following statement:

19. I believe that explicit pronunciation instruction provided throughout this semester will lead to improvements in my pronunciation skills. *

Markieren Sie nur ein Oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly agree

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If you have any further questions, please do not hesitate to contact me via email:

Valerie White-Hautzinger
valerie.hautzinger@univie.ac.at.

Thank you very much for your time and help!

* Gibt eine erforderliche Frage an

Background questions

1. Your name: *

Your English accent

2. How do you think your English accent sounds now after having completed the course? (PPOCS1 + the lab)? *

Markieren Sie nur ein Oval.

- ◯ Clearly American
- ◯ Rather American
- ◯ Clearly British
- ◯ Rather British
- ◯ Rather Austrian
- ◯ A mix of different accents (e.g. a mix of American and British)
- ◯ Other

3. If you clicked "other", please specify.

_____

4. How would you rate your current confidence level in your English pronunciation after having completed the course (PPOCS1 + the lab)? *

Markieren Sie nur ein Oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Very confident

5. How happy are you with your English pronunciation now after taking the course (PPOCS1 + the lab)? *

Markieren Sie nur ein Oval.

- ◯ Happier than before
- ◯ About the same as before
- ◯ Less happy than before

6. What was/were your main personal goal/goals at the beginning of the course? *

Wählen Sie alle zutreffenden Antworten aus.

- [ ] To sound like a native speaker
- [ ] To have the best possible accent
- [ ] To enhance my speaking fluency
- [ ] To improve my clarity and be better understood
- [ ] To enhance my pronunciation
- [ ] Other

7. Did you reach this/these goal/goals? *

Markieren Sie nur ein Oval.

	1	2	3	4	
Not	◯	◯	◯	◯	Fully

8. Besides the goals listed previously, did the course (PPOCS1 + the lab) help you achieve any other personal goals related to your English skills? (e.g. gaining more confidence in speaking, improving your ability to understand different accents, feeling more comfortable in social interactions...) *

Markieren Sie nur ein Oval.

- ◯ Yes
- ◯ No

9. If you clicked "yes", please specify.

_____

10. How often did you practice your English pronunciation outside of class this semester? *

Markieren Sie nur ein Oval.

- ◯ Daily
- ◯ Multiple times per week (3-6 days a week)
- ◯ Weekly (1-2 times a week)
- ◯ Occasionally (1-2 times per month)
- ◯ Rarely (less than once a month)
- ◯ Never

11. Which specific area(s) of your pronunciation do you perceive have improved? *

Wählen Sie alle zutreffenden Antworten aus.

- ☐ Vowel sounds (e.g. /i:/ vs. /ɪ/, /aʊ/, /oʊ/)
- ☐ Consonants (e.g. /w/ vs. /v/, /θ/ vs. /ð/, /s/ vs. /z/)
- ☐ Stress patterns in words or sentences
- ☐ Intonation and rhythm of sentences
- ☐ Linking sounds in connected speech
- ☐ Other

12. If you clicked "other", please specify.

_____

13. What area(s) of pronunciation do you still find challenging? *

Wählen Sie alle zutreffenden Antworten aus.

- [ ] Vowel sounds (e.g. /i:/ vs. /ɪ/, /aʊ/, /oʊ/)
- [ ] Consonants (e.g. /w/ vs. /v/, /θ/ vs. /ð/, /s/ vs. /z/)
- [ ] Stress patterns in words or sentences
- [ ] Intonation and rhythm of sentences
- [ ] Linking sounds in connected speech
- [ ] Other

14. If you clicked "other", please specify.

_____

Please indicate your level of agreement with the following statement:

15. I believe that explicit pronunciation instruction provided throughout this semester has significantly improved my pronunciation skills. *

Markieren Sie nur ein Oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly agree

16. What aspect/aspects of the course (POOCS 1 + lab) did you find most useful for improving your pronunciation? *

Wählen Sie alle zutreffenden Antworten aus.

- [ ] Practicing with audio files
- [ ] Receiving oral feedback
- [ ] Receiving written feedback
- [ ] Receiving theory input
- [ ] Practicing in pairs/groups
- [ ] Practicing with the tasks in the lab booklet
- [ ] Other

17. If you clicked "other", please specify.

_____

18. How motivated are you to continue practicing pronunciation after having completed the course (PPOCS1 & the lab)? *

Markieren Sie nur ein Oval.

	1	2	3	4	
Not	◯	◯	◯	◯	Highly motivated

19. What suggestions do you have for improving the course (PPOCS + lab) in the future? *

_____

_____

_____

_____

_____

Zusammenfassung

Kommunikative Kompetenz zählt zu den zentralen Zielen des Englischunterrichts – insbesondere im universitären Kontext, wo eine deutliche und verständliche Aussprache für erfolgreiche Kommunikation in akademischen und beruflichen Situationen unerlässlich ist. Obwohl zahlreiche Studien die positiven Effekte gezielten Ausspracheunterrichts auf die phonetische Genauigkeit und die mündliche Ausdrucksfähigkeit belegen, wird diesem Bereich in vielen universitären Englischprogrammen nach wie vor wenig Aufmerksamkeit geschenkt. Besonders für Lernende mit Deutsch als Erstsprache liegen bislang nur wenige empirische Untersuchungen zur Wirksamkeit solcher Unterrichtsmaßnahmen vor. Darüber hinaus besteht trotz wachsender Berücksichtigung von Lernendenperspektiven weiterhin ein begrenztes Verständnis darüber, wie gezielter Ausspracheunterricht Aspekte wie Akzentwahrnehmung, Motivation, wahrgenommene Herausforderungen und die Einschätzung der Effektivität von EPI beeinflusst. Diese Masterarbeit geht diesen Fragen nach und untersucht, inwiefern gezielter Ausspracheunterricht die Ausspracheentwicklung sowie die Lernendenperspektiven österreichischer Studierender mit Deutsch als Erstsprache beeinflusst – insbesondere im Kontext von General American (GA) als Zielvarietät. Die Studie wurde im Rahmen des Tutoriums „IK Sprachlabor zu PPOCS (GA)“ am Institut für Anglistik und Amerikanistik der Universität Wien durchgeführt. Zur Datenerhebung kam ein Mixed-Methods-Ansatz zum Einsatz, bei dem 20 Lehramtsstudierende im Bachelorstudium zu Beginn und am Ende des Semesters mittels Audioaufnahmen und Online-Fragebögen untersucht wurden. Der Fokus lag auf ausgewählten segmentalen Merkmalen, die sowohl als charakteristisch für GA als auch als besonders herausfordernd für deutschsprachige Lernende gelten, sowie auf verschiedenen suprasegmentalen Aspekten, die in der Forschung ebenfalls als typische Schwierigkeiten für diese Lernergruppe beschrieben werden. Die Ergebnisse zeigen unter anderem signifikante Verbesserungen in der Aussprachegenauigkeit, ein gestärktes Vertrauen in die eigene Sprechkompetenz, eine positive Einschätzung der Wirksamkeit von gezieltem Ausspracheunterricht sowie eine erhöhte Motivation, sich weiterhin mit dem angestrebten Akzent auseinanderzusetzen. Insgesamt sprechen die Ergebnisse für eine gezielte und systematische Integration von Ausspracheunterricht in universitäre Englischprogramme.